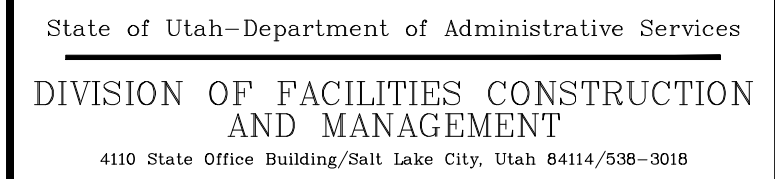
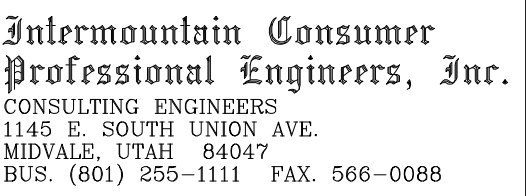


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CONSULTANTS



EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

[illegible]




SHEET TITLE

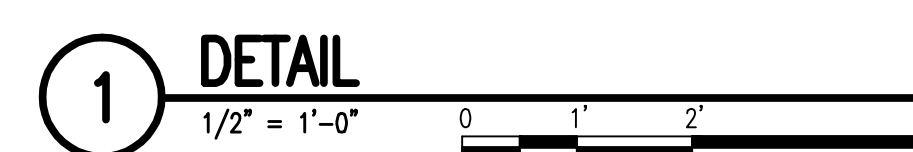
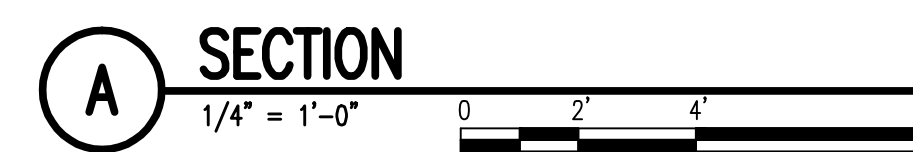
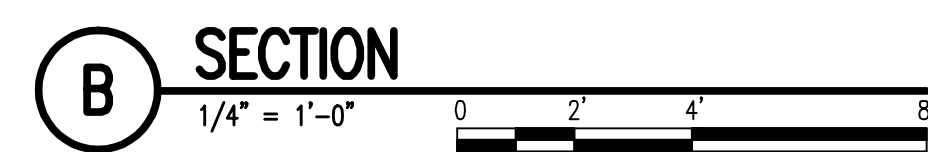
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SHEET 1 OF 21

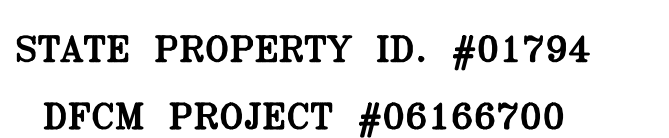
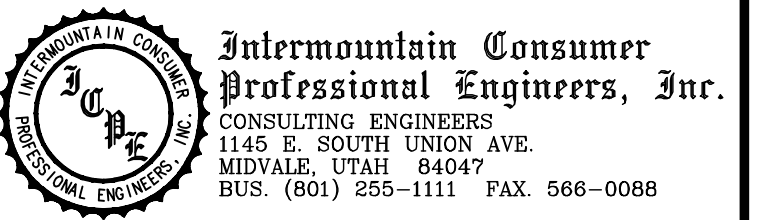
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| | PIPING SYMBOLS | | | | LEGEND OF SYMBOLS AND ABBREVIATIONS | | NOTE: NOT ALL SYMBOLS MAY BE USED | | ELECTRICAL SYMBOLS | | ABBREVIATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><td>— CP —</td><td>CULVERT PIPE LINE</td></tr><tr><td>— HTWR —</td><td>HIGH TEMPERATURE HOT WATER RETURN</td></tr><tr><td>— IW —</td><td>INDIRECT WASTE LINE</td></tr><tr><td>— PW —</td><td>PUBLIC WATER MAIN</td></tr><tr><td>— SD —</td><td>STORM DRAIN LINE</td></tr><tr><td>— SS —</td><td>SANITARY SEWER—ABOVE GROUND</td></tr><tr><td>— SS —</td><td>SANITARY SEWER—BELOW GROUND</td></tr><tr><td>— SV —</td><td>COMBINATION VENT AND WASTE LINE</td></tr><tr><td>— TWS —</td><td>TEMPERED WATER SUPPLY</td></tr><tr><td>— TWR —</td><td>TEMPERED WATER RETURN</td></tr><tr><td>— — —</td><td>DOMESTIC COLD WATER PIPE (CW)</td></tr><tr><td>— — — — —</td><td>DOMESTIC HOT WATER PIPE (HW)</td></tr><tr><td>— — — — —</td><td>DOMESTIC HOT WATER RETURN PIPE (HWR)</td></tr></table> | | — CP — | CULVERT PIPE LINE | — HTWR — | HIGH TEMPERATURE HOT WATER RETURN | — IW — | INDIRECT WASTE LINE | — PW — | PUBLIC WATER MAIN | — SD — | STORM DRAIN LINE | — SS — | SANITARY SEWER—ABOVE GROUND | — SS — | SANITARY SEWER—BELOW GROUND | — SV — | COMBINATION VENT AND WASTE LINE | — TWS — | TEMPERED WATER SUPPLY | — TWR — | TEMPERED WATER RETURN | — — — | DOMESTIC COLD WATER PIPE (CW) | — — — — — | DOMESTIC HOT WATER PIPE (HW) | — — — — — | DOMESTIC HOT WATER RETURN PIPE (HWR) | <table><tr><td>— LOX —</td><td>LIQUID OXYGEN LINE</td></tr><tr><td>— LPG —</td><td>LIQUID PETROLEUM GAS LINE</td></tr><tr><td>— MPC —</td><td>MEDIUM PRESSURE CONDENSATE RETURN</td></tr><tr><td>— MTWR —</td><td>MEDIUM TEMPERATURE HOT WATER RETURN</td></tr><tr><td>— MTWS —</td><td>MEDIUM TEMPERATURE HOT WATER SUPPLY</td></tr><tr><td>— MU —</td><td>MAKE-UP WATER LINE</td></tr><tr><td>— N —</td><td>NITROGEN LINE</td></tr><tr><td>— NO —</td><td>NITROUS OXIDE LINE</td></tr><tr><td>— O —</td><td>OXYGEN LINE</td></tr><tr><td>— PC —</td><td>PUMPED CONDENSATE</td></tr><tr><td>— RD —</td><td>REFRIGERANT DISCHARGE</td></tr><tr><td>— RL —</td><td>REFRIGERANT LIQUID</td></tr><tr><td>— RS —</td><td>REFRIGERANT SUCTION</td></tr><tr><td>— SW —</td><td>SOFT WATER LINE</td></tr><tr><td>— V —</td><td>VENT LINE</td></tr><tr><td>— VAC —</td><td>VACUUM AIR LINE</td></tr><tr><td>— VC —</td><td>VACUUM CLEANING LINE</td></tr><tr><td>— VPD —</td><td>VACUUM PUMP DISCHARGE</td></tr></table> | | — LOX — | LIQUID OXYGEN LINE | — LPG — | LIQUID PETROLEUM GAS LINE | — MPC — | MEDIUM PRESSURE CONDENSATE RETURN | — MTWR — | MEDIUM TEMPERATURE HOT WATER RETURN | — MTWS — | MEDIUM TEMPERATURE HOT WATER SUPPLY | — MU — | MAKE-UP WATER LINE | — N — | NITROGEN LINE | — NO — | NITROUS OXIDE LINE | — O — | OXYGEN LINE | — PC — | PUMPED CONDENSATE | — RD — | REFRIGERANT DISCHARGE | — RL — | REFRIGERANT LIQUID | — RS — | REFRIGERANT SUCTION | — SW — | SOFT WATER LINE | — V — | VENT LINE | — VAC — | VACUUM AIR LINE | — VC — | VACUUM CLEANING LINE | — VPD — | VACUUM PUMP DISCHARGE | <table><tr><td></td><td>SLEEVE</td></tr><tr><td></td><td>PIPE GUIDES</td></tr><tr><td></td><td>PIPE TO BE REMOVED</td></tr><tr><td></td><td>EXPANSION LOOP</td></tr><tr><td></td><td>FLEXIBLE CONNECTION</td></tr><tr><td></td><td>EXPANSION JOINT</td></tr><tr><td></td><td>REDUCING FLANGE</td></tr><tr><td></td><td>WALL HYDRANT OR HOSE BIB</td></tr><tr><td></td><td>DOWNSPOUT</td></tr><tr><td></td><td>PIPE ANCHOR</td></tr><tr><td></td><td>VALVE IN RISER</td></tr><tr><td></td><td>FIRE DEPARTMENT CONNECTION</td></tr><tr><td></td><td>REDUCED PRESSURE BACKFLOW PREVENTER</td></tr><tr><td></td><td>CONCENTRIC REDUCER</td></tr><tr><td></td><td>ECCENTRIC REDUCER</td></tr><tr><td></td><td>45° ELBOW</td></tr><tr><td></td><td>STRAIGHT TEE</td></tr><tr><td></td><td>90° ELBOW</td></tr><tr><td></td><td>INTERSECTION</td></tr><tr><td></td><td>SIDE OUT UP</td></tr><tr><td></td><td>PIPE DROP OR RISE</td></tr><tr><td></td><td>CONNECT OUT OF TOP</td></tr><tr><td></td><td>CONNECT OUT OF BOTTOM</td></tr><tr><td></td><td>DROP IN PIPING (N LINE)</td></tr><tr><td></td><td>RISE IN PIPING (N LINE)</td></tr><tr><td></td><td>DROP IN PIPING AT END</td></tr><tr><td></td><td>RISE IN PIPING AT END</td></tr><tr><td></td><td>CAP IN PIPING</td></tr><tr><td></td><td>PIPE BREAK</td></tr><tr><td></td><td>DOUBLE LINE PIPE BREAK</td></tr><tr><td></td><td>UNION</td></tr><tr><td></td><td>PUMP</td></tr><tr><td></td><td>DRIP TRAP ASSEMBLY (STEAM TRAP)</td></tr><tr><td></td><td>AIR ELIMINATOR</td></tr><tr><td></td><td>SECTION TAG</td></tr><tr><td></td><td>DETAIL TAG</td></tr><tr><td></td><td>DIFFUSER OR REGISTER NO.</td></tr><tr><td></td><td>PLUMBING FIXTURE DESIGNATION</td></tr><tr><td></td><td>EQUIPMENT SYMBOL</td></tr><tr><td></td><td>REVISION MARKER</td></tr><tr><td></td><td>KEYED NOTE IDENTIFICATION</td></tr><tr><td></td><td>REMOVE EXISTING, UP TO THIS POINT POINT OF DEMOLITION</td></tr><tr><td></td><td>POINT OF CONNECTION TO EXISTING</td></tr></table> | | | SLEEVE | | PIPE GUIDES | | PIPE TO BE REMOVED | | EXPANSION LOOP | | FLEXIBLE CONNECTION | | EXPANSION JOINT | | REDUCING FLANGE | | WALL HYDRANT OR HOSE BIB | | DOWNSPOUT | | PIPE ANCHOR | | VALVE IN RISER | | FIRE DEPARTMENT CONNECTION | | REDUCED PRESSURE BACKFLOW PREVENTER | | CONCENTRIC REDUCER | | ECCENTRIC REDUCER | | 45° ELBOW | | STRAIGHT TEE | | 90° ELBOW | | INTERSECTION | | SIDE OUT UP | | PIPE DROP OR RISE | | CONNECT OUT OF TOP | | CONNECT OUT OF BOTTOM | | DROP IN PIPING (N LINE) | | RISE IN PIPING (N LINE) | | DROP IN PIPING AT END | | RISE IN PIPING AT END | | CAP IN PIPING | | PIPE BREAK | | DOUBLE LINE PIPE BREAK | | UNION | | PUMP | | DRIP TRAP ASSEMBLY (STEAM TRAP) | | AIR ELIMINATOR | | SECTION TAG | | DETAIL TAG | | DIFFUSER OR REGISTER NO. | | PLUMBING FIXTURE DESIGNATION | | EQUIPMENT SYMBOL | | REVISION MARKER | | KEYED NOTE IDENTIFICATION | | REMOVE EXISTING, UP TO THIS POINT POINT OF DEMOLITION | | POINT OF CONNECTION TO EXISTING | <table><tr><td></td><td>STRAINER</td></tr><tr><td></td><td>STRAINER WITH BLOW-OFF VALVE</td></tr><tr><td></td><td>STEAM TRAP</td></tr><tr><td></td><td>BALL VALVE</td></tr><tr><td></td><td>CALIBRATED BALANCING VALVE</td></tr><tr><td></td><td>CHECK VALVE</td></tr><tr><td></td><td>SOLENOID VALVE</td></tr><tr><td></td><td>THREE WAY</td></tr><tr><td></td><td>GATE VALVE</td></tr><tr><td></td><td>GLOBE VALVE</td></tr><tr><td></td><td>CONTROL VALVE -- 2 WAY</td></tr><tr><td></td><td>CONTROL VALVE -- 3 WAY</td></tr><tr><td></td><td>BUTTERFLY VALVE</td></tr><tr><td></td><td>RELIEF VALVE</td></tr><tr><td></td><td>3-WAY RELIEF VALVE</td></tr><tr><td></td><td>PRESSURE REDUCING VALVE</td></tr><tr><td></td><td>PRESSURE REGULATING VALVE (PRV)</td></tr><tr><td></td><td>FLOW METER</td></tr><tr><td></td><td>NATURAL GAS MODULATING CONTROL VALVE</td></tr><tr><td></td><td>NATURAL GAS PILOT OPERATED CONTROL VALVE</td></tr><tr><td></td><td>GAS VALVE</td></tr><tr><td></td><td>COMBINATION BALANCING & SHUT OFF VALVE</td></tr><tr><td></td><td>GAS PRESSURE REGULATOR</td></tr><tr><td></td><td>NEEDLE VALVE</td></tr><tr><td></td><td>STEP ACTUATED VALVE</td></tr><tr><td></td><td>FUSED LINK VALVE</td></tr><tr><td></td><td>DIFFERENTIAL PRESSURE REGULATOR</td></tr></table> | | | STRAINER | | STRAINER WITH BLOW-OFF VALVE | | STEAM TRAP | | BALL VALVE | | CALIBRATED BALANCING VALVE | | CHECK VALVE | | SOLENOID VALVE | | THREE WAY | | GATE VALVE | | GLOBE VALVE | | CONTROL VALVE -- 2 WAY | | CONTROL VALVE -- 3 WAY | | BUTTERFLY VALVE | | RELIEF VALVE | | 3-WAY RELIEF VALVE | | PRESSURE REDUCING VALVE | | PRESSURE REGULATING VALVE (PRV) | | FLOW METER | | NATURAL GAS MODULATING CONTROL VALVE | | NATURAL GAS PILOT OPERATED CONTROL VALVE | | GAS VALVE | | COMBINATION BALANCING & SHUT OFF VALVE | | GAS PRESSURE REGULATOR | | NEEDLE VALVE | | STEP ACTUATED VALVE | | FUSED LINK VALVE | | DIFFERENTIAL PRESSURE REGULATOR | <table><tr><td></td><td>NEW EQUIPMENT AND MATERIAL</td></tr><tr><td></td><td>EXISTING EQUIPMENT AND MATERIAL</td></tr><tr><td></td><td>TRANSFORMER</td></tr><tr><td></td><td>VARIABLE FREQUENCY DRIVE</td></tr><tr><td></td><td>SAFETY SWITCH 600V, 30A</td></tr><tr><td></td><td>TRANSIENT VOLTAGE SURGE SUPPRESSOR</td></tr><tr><td></td><td>WEATHER PROOF, NEMA 3R ENCLOSURE</td></tr><tr><td></td><td>EARTH GROUND</td></tr><tr><td></td><td>NORMALLY CLOSED RELAY CONTACT</td></tr><tr><td></td><td>NORMALLY OPEN RELAY CONTACT</td></tr><tr><td></td><td>RECEPTACLE, QUADRAPLEX</td></tr><tr><td></td><td>SWITCH, SINGLE BREAK</td></tr><tr><td></td><td>EQUIPMENT NUMBER DESIGNATION</td></tr><tr><td></td><td>SINGLE POLE SWITCH, 48" A.F.F.</td></tr><tr><td></td><td>THREE-WAY SWITCH, 48" A.F.F.</td></tr><tr><td></td><td>E-STOP SWITCH</td></tr><tr><td></td><td>120V MOTOR STARTING SWITCH</td></tr><tr><td></td><td>FLUORESCENT</td></tr><tr><td></td><td>MH WALL PAK</td></tr><tr><td></td><td>WALL MOUNTED EXIT LIGHT</td></tr><tr><td></td><td>1 CIRCUIT HOME RUN (1 HOT, 1 NEUTRAL, 1 GROUND)</td></tr><tr><td></td><td>2 CIRCUIT HOME RUN (2 HOT, 1 NEUTRAL, 1 GROUND)</td></tr><tr><td></td><td>3 CIRCUIT HOME RUN (3 HOT, 1 NEUTRAL, 1 GROUND)</td></tr><tr><td></td><td>LIGHT FIXTURE DESIGNATION (LETTER DESIGNATES TYPE)</td></tr><tr><td></td><td>CONDUIT CONCEALED IN WALL OR CEILING</td></tr><tr><td></td><td>CONDUIT CONCEALED IN FLOOR OR GROUND</td></tr><tr><td></td><td>CONDUIT UP</td></tr><tr><td></td><td>CONDUIT DOWN</td></tr><tr><td></td><td>DUPLEX RECEPTACLE, UPPER OUTLET SWITCH CONTROLLED, 18" A.F.F.</td></tr><tr><td></td><td>DUPLEX RECEPTACLE, 18" A.F.F.</td></tr><tr><td></td><td>WEATHERPROOF RECEPTACLE, 18" A.F.G.</td></tr><tr><td></td><td>GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE, 18" A.F.F.</td></tr><tr><td></td><td>GROUND FAULT INTERRUPTER DUPLEX WEATHERPROOF RECEPTACLE, 18" A.F.G.</td></tr><tr><td></td><td>50A 250V 2 POLE, 3 WIRE GROUNDING RECEPTACLE, 24" A.F.F.</td></tr><tr><td></td><td>SPECIAL PURPOSE OUTLET, 24" A.F.F.</td></tr><tr><td></td><td>PLUG STRIP, 6" ABOVE WORK BENCH</td></tr><tr><td></td><td>PANEL BOARD</td></tr><tr><td></td><td>MAIN DISTRIBUTION PANEL</td></tr><tr><td></td><td>TELEPHONE/DATA OUTLET COMBINATION, 18" A.F.F.</td></tr><tr><td></td><td>TELEPHONE TERMINAL BOARD</td></tr><tr><td></td><td>JUNCTION BOX</td></tr><tr><td></td><td>MOTOR OUTLET</td></tr><tr><td></td><td>PUSHBUTTON</td></tr><tr><td></td><td>NON-FUSED DISCONNECT SWITCH</td></tr><tr><td></td><td>FUSED DISCONNECT SWITCH</td></tr><tr><td></td><td>MAGNETIC STARTER</td></tr><tr><td></td><td>MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION</td></tr><tr><td></td><td>MAGNETIC STARTER/FUSED COMBINATION</td></tr><tr><td></td><td>FIRE ALARM MANUAL STATION</td></tr><tr><td></td><td>FIRE ALARM SIGNAL HORN WITH STROBE LIGHT</td></tr><tr><td></td><td>SMOKE DETECTOR</td></tr><tr><td></td><td>DUCT SMOKE DETECTOR</td></tr><tr><td></td><td>HEAT DETECTOR</td></tr><tr><td></td><td>FIRE ALARM CONTROL PANEL</td></tr><tr><td></td><td>EXISTING</td></tr></table> | | | NEW EQUIPMENT AND MATERIAL | | EXISTING EQUIPMENT AND MATERIAL | | TRANSFORMER | | VARIABLE FREQUENCY DRIVE | | SAFETY SWITCH 600V, 30A | | TRANSIENT VOLTAGE SURGE SUPPRESSOR | | WEATHER PROOF, NEMA 3R ENCLOSURE | | EARTH GROUND | | NORMALLY CLOSED RELAY CONTACT | | NORMALLY OPEN RELAY CONTACT | | RECEPTACLE, QUADRAPLEX | | SWITCH, SINGLE BREAK | | EQUIPMENT NUMBER DESIGNATION | | SINGLE POLE SWITCH, 48" A.F.F. | | THREE-WAY SWITCH, 48" A.F.F. | | E-STOP SWITCH | | 120V MOTOR STARTING SWITCH | | FLUORESCENT | | MH WALL PAK | | WALL MOUNTED EXIT LIGHT | | 1 CIRCUIT HOME RUN (1 HOT, 1 NEUTRAL, 1 GROUND) | | 2 CIRCUIT HOME RUN (2 HOT, 1 NEUTRAL, 1 GROUND) | | 3 CIRCUIT HOME RUN (3 HOT, 1 NEUTRAL, 1 GROUND) | | LIGHT FIXTURE DESIGNATION (LETTER DESIGNATES TYPE) | | CONDUIT CONCEALED IN WALL OR CEILING | | CONDUIT CONCEALED IN FLOOR OR GROUND | | CONDUIT UP | | CONDUIT DOWN | | DUPLEX RECEPTACLE, UPPER OUTLET SWITCH CONTROLLED, 18" A.F.F. | | DUPLEX RECEPTACLE, 18" A.F.F. | | WEATHERPROOF RECEPTACLE, 18" A.F.G. | | GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE, 18" A.F.F. | | GROUND FAULT INTERRUPTER DUPLEX WEATHERPROOF RECEPTACLE, 18" A.F.G. | | 50A 250V 2 POLE, 3 WIRE GROUNDING RECEPTACLE, 24" A.F.F. | | SPECIAL PURPOSE OUTLET, 24" A.F.F. | | PLUG STRIP, 6" ABOVE WORK BENCH | | PANEL BOARD | | MAIN DISTRIBUTION PANEL | | TELEPHONE/DATA OUTLET COMBINATION, 18" A.F.F. | | TELEPHONE TERMINAL BOARD | | JUNCTION BOX | | MOTOR OUTLET | | PUSHBUTTON | | NON-FUSED DISCONNECT SWITCH | | FUSED DISCONNECT SWITCH | | MAGNETIC STARTER | | MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION | | MAGNETIC STARTER/FUSED COMBINATION | | FIRE ALARM MANUAL STATION | | FIRE ALARM SIGNAL HORN WITH STROBE LIGHT | | SMOKE DETECTOR | | DUCT SMOKE DETECTOR | | HEAT DETECTOR | | FIRE ALARM CONTROL PANEL | | EXISTING | <table><tr><td>AFF</td><td>ABOVE FINISHED FLOOR</td></tr><tr><td>AMPS</td><td>AMPERES</td></tr><tr><td>APD</td><td>AIR PRESSURE DROP</td></tr><tr><td>ASL</td><td>ABOVE SEA LEVEL</td></tr><tr><td>BD</td><td>BACKDRAFT DAMPER</td></tr><tr><td>BHP</td><td>BRAKE HORSEPOWER</td></tr><tr><td>BTUH</td><td>BRITISH THERMAL UNITS PER HOUR</td></tr><tr><td>CMU</td><td>CONCRETE MASONRY UNIT</td></tr><tr><td>CFM</td><td>CUBIC FEET PER MINUTE</td></tr><tr><td>DB</td><td>DRY BULB TEMPERATURE</td></tr><tr><td>DEG OR °</td><td>DEGREE</td></tr><tr><td>DIA OR Ø</td><td>DIAMETER</td></tr><tr><td>DG</td><td>DOOR GRILLE</td></tr><tr><td>DN</td><td>DOWN</td></tr><tr><td>EA</td><td>EXHAUST AIR</td></tr><tr><td>EG</td><td>EXHAUST AIR GRILLE</td></tr><tr><td>EAR</td><td>EXHAUST AIR REGISTER</td></tr><tr><td>EAT</td><td>ENTERING AIR TEMPERATURE</td></tr><tr><td>ESP</td><td>EXTERNAL STATIC PRESSURE</td></tr><tr><td>FA</td><td>FIRE ALARM</td></tr><tr><td>FPM</td><td>FEET PER MINUTE</td></tr><tr><td>FT</td><td>FOOT</td></tr><tr><td>GA</td><td>GAGE OR GAUGE</td></tr><tr><td>HP</td><td>HORSEPOWER</td></tr><tr><td>HZ</td><td>HERTZ</td></tr><tr><td>IN</td><td>INCH</td></tr><tr><td>KW</td><td>KILOWATTS</td></tr><tr><td>LAT</td><td>LEAVING AIR TEMPERATURE</td></tr><tr><td>MAX</td><td>MAXIMUM</td></tr><tr><td>MBH</td><td>BRITISH THERMAL UNITS PER HOUR (THOUSANDS)</td></tr><tr><td>MIN</td><td>MINIMUM</td></tr><tr><td>OA</td><td>OUTSIDE AIR</td></tr><tr><td>PD</td><td>PRESSURE DROP</td></tr><tr><td>PH</td><td>PHASE</td></tr><tr><td>LBS</td><td>POUNDS</td></tr><tr><td>PSIG</td><td>POUNDS PER SQUARE INCH GAGE</td></tr><tr><td>PSI</td><td>POUNDS PER SQUARE INCH</td></tr><tr><td>RA</td><td>RETURN AIR</td></tr><tr><td>RPM</td><td>REVOLUTIONS PER MINUTE</td></tr><tr><td>RH</td><td>RELATIVE HUMIDITY</td></tr><tr><td>SA</td><td>SUPPLY AIR</td></tr><tr><td>SF</td><td>SUPPLY FAN</td></tr><tr><td>SP</td><td>STATIC PRESSURE</td></tr><tr><td>SQFT</td><td>SQUARE FEET</td></tr><tr><td>TEMP</td><td>TEMPERATURE</td></tr><tr><td>TSP</td><td>TOTAL STATIC PRESSURE</td></tr><tr><td>TYP</td><td>TYPICAL</td></tr><tr><td>UON</td><td>UNLESS OTHERWISE NOTED</td></tr><tr><td>V.A.C.</td><td>VACUUM</td></tr><tr><td>V</td><td>VOLTAGE</td></tr><tr><td>WB</td><td>WET BULB TEMPERATURE</td></tr><tr><td>WC</td><td>WATER COLUMN</td></tr></table> | | AFF | ABOVE FINISHED FLOOR | AMPS | AMPERES | APD | AIR PRESSURE DROP | ASL | ABOVE SEA LEVEL | BD | BACKDRAFT DAMPER | BHP | BRAKE HORSEPOWER | BTUH | BRITISH THERMAL UNITS PER HOUR | CMU | CONCRETE MASONRY UNIT | CFM | CUBIC FEET PER MINUTE | DB | DRY BULB TEMPERATURE | DEG OR ° | DEGREE | DIA OR Ø | DIAMETER | DG | DOOR GRILLE | DN | DOWN | EA | EXHAUST AIR | EG | EXHAUST AIR GRILLE | EAR | EXHAUST AIR REGISTER | EAT | ENTERING AIR TEMPERATURE | ESP | EXTERNAL STATIC PRESSURE | FA | FIRE ALARM | FPM | FEET PER MINUTE | FT | FOOT | GA | GAGE OR GAUGE | HP | HORSEPOWER | HZ | HERTZ | IN | INCH | KW | KILOWATTS | LAT | LEAVING AIR TEMPERATURE | MAX | MAXIMUM | MBH | BRITISH THERMAL UNITS PER HOUR (THOUSANDS) | MIN | MINIMUM | OA | OUTSIDE AIR | PD | PRESSURE DROP | PH | PHASE | LBS | POUNDS | PSIG | POUNDS PER SQUARE INCH GAGE | PSI | POUNDS PER SQUARE INCH | RA | RETURN AIR | RPM | REVOLUTIONS PER MINUTE | RH | RELATIVE HUMIDITY | SA | SUPPLY AIR | SF | SUPPLY FAN | SP | STATIC PRESSURE | SQFT | SQUARE FEET | TEMP | TEMPERATURE | TSP | TOTAL STATIC PRESSURE | TYP | TYPICAL | UON | UNLESS OTHERWISE NOTED | V.A.C. | VACUUM | V | VOLTAGE | WB | WET BULB TEMPERATURE | WC |
| — CP — | CULVERT PIPE LINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — HTWR — | HIGH TEMPERATURE HOT WATER RETURN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — IW — | INDIRECT WASTE LINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — PW — | PUBLIC WATER MAIN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — SD — | STORM DRAIN LINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| — SV — | COMBINATION VENT AND WASTE LINE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — TWS — | TEMPERED WATER SUPPLY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — TWR — | TEMPERED WATER RETURN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — — — | DOMESTIC COLD WATER PIPE (CW) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — — — — — | DOMESTIC HOT WATER PIPE (HW) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | FIRE DEPARTMENT CONNECTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | INTERSECTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | PIPE DROP OR RISE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CONNECT OUT OF TOP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | PIPE BREAK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | DIFFUSER OR REGISTER NO. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PLUMBING FIXTURE DESIGNATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EQUIPMENT SYMBOL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | REVISION MARKER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | KEYED NOTE IDENTIFICATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | REMOVE EXISTING, UP TO THIS POINT POINT OF DEMOLITION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | POINT OF CONNECTION TO EXISTING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | STRAINER WITH BLOW-OFF VALVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | PRESSURE REGULATING VALVE (PRV) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLOW METER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | GAS VALVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | COMBINATION BALANCING & SHUT OFF VALVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GAS PRESSURE REGULATOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NEEDLE VALVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | STEP ACTUATED VALVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FUSED LINK VALVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DIFFERENTIAL PRESSURE REGULATOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NEW EQUIPMENT AND MATERIAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EXISTING EQUIPMENT AND MATERIAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TRANSFORMER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VARIABLE FREQUENCY DRIVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SAFETY SWITCH 600V, 30A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TRANSIENT VOLTAGE SURGE SUPPRESSOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WEATHER PROOF, NEMA 3R ENCLOSURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EARTH GROUND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NORMALLY CLOSED RELAY CONTACT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NORMALLY OPEN RELAY CONTACT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | RECEPTACLE, QUADRAPLEX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SWITCH, SINGLE BREAK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EQUIPMENT NUMBER DESIGNATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SINGLE POLE SWITCH, 48" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | THREE-WAY SWITCH, 48" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | E-STOP SWITCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 120V MOTOR STARTING SWITCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FLUORESCENT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MH WALL PAK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WALL MOUNTED EXIT LIGHT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 CIRCUIT HOME RUN (1 HOT, 1 NEUTRAL, 1 GROUND) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 CIRCUIT HOME RUN (2 HOT, 1 NEUTRAL, 1 GROUND) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 CIRCUIT HOME RUN (3 HOT, 1 NEUTRAL, 1 GROUND) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LIGHT FIXTURE DESIGNATION (LETTER DESIGNATES TYPE) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CONDUIT CONCEALED IN WALL OR CEILING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CONDUIT CONCEALED IN FLOOR OR GROUND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CONDUIT UP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CONDUIT DOWN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DUPLEX RECEPTACLE, UPPER OUTLET SWITCH CONTROLLED, 18" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DUPLEX RECEPTACLE, 18" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | WEATHERPROOF RECEPTACLE, 18" A.F.G. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE, 18" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GROUND FAULT INTERRUPTER DUPLEX WEATHERPROOF RECEPTACLE, 18" A.F.G. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 50A 250V 2 POLE, 3 WIRE GROUNDING RECEPTACLE, 24" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SPECIAL PURPOSE OUTLET, 24" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PLUG STRIP, 6" ABOVE WORK BENCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PANEL BOARD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MAIN DISTRIBUTION PANEL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TELEPHONE/DATA OUTLET COMBINATION, 18" A.F.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TELEPHONE TERMINAL BOARD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | JUNCTION BOX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MOTOR OUTLET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | PUSHBUTTON | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NON-FUSED DISCONNECT SWITCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | MAGNETIC STARTER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MAGNETIC STARTER/FUSED COMBINATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FIRE ALARM MANUAL STATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FIRE ALARM SIGNAL HORN WITH STROBE LIGHT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SMOKE DETECTOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DUCT SMOKE DETECTOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HEAT DETECTOR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FIRE ALARM CONTROL PANEL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EXISTING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | PIPING SYMBOLS | | | | LEGEND OF SYMBOLS AND ABBREVIATIONS | | NOTE: NOT ALL SYMBOLS MAY BE USED | | ELECTRICAL SYMBOLS | | ABBREVIATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table><tr><td>— A —</td><td>COMPRESSED AIR LINE</td></tr><tr><td>— ACID —</td><td>ACID WASTE LINE</td></tr><tr><td>— AR —</td><td>ARGON LINE</td></tr><tr><td>— ATV —</td><td>AIR RELIEF LINE</td></tr><tr><td>— B —</td><td>BRINE SUPPLY LINE</td></tr><tr><td>— BR —</td><td>BRINE RETURN LINE</td></tr><tr><td>— BBD —</td><td>BOILER BLOW DOWN</td></tr><tr><td>— C —</td><td>CONDENSATE LINE</td></tr><tr><td>— CR —</td><td>CONDENSATE RETURN</td></tr><tr><td>— CHWR —</td><td>CHILLED WATER RETURN</td></tr><tr><td>— CHWS —</td><td>CHILLED WATER SUPPLY</td></tr><tr><td>— CWR —</td><td>CONDENSER WATER RETURN</td></tr><tr><td>— CWS —</td><td>CONDENSER WATER SUPPLY</td></tr><tr><td>— CS —</td><td>CHEMICAL SUPPLY PIPE</td></tr><tr><td>— D —</td><td>DRAIN LINE</td></tr><tr><td>— DTR —</td><td>DUAL TEMPERATURE RETURN LINE</td></tr><tr><td>— DTS —</td><td>DUAL TEMPERATURE SUPPLY</td></tr><tr><td>— FILL —</td><td>FILL LINE</td></tr><tr><td>— FOD —</td><td>FUEL OIL DISCHARGE</td></tr><tr><td>— FOF —</td><td>FUEL OIL FLOW LINE</td></tr><tr><td>— FOG —</td><td>FUEL OIL GAUGE LINE</td></tr><tr><td>— FOR —</td><td>FUEL OIL RETURN</td></tr><tr><td>— FOS —</td><td>FUEL OIL SUCTION SUPPLY</td></tr><tr><td>— FOV —</td><td>FUEL OIL TANK VENT</td></tr><tr><td>— FW —</td><td>FEEDWATER</td></tr><tr><td>— G —</td><td>NATURAL GAS LINE</td></tr><tr><td>— MG —</td><td>MEDIUM PRESSURE NATURAL GAS LINE</td></tr><tr><td>— GHR —</td><td>GLYCOL HEATING RETURN</td></tr><tr><td>— GHS —</td><td>GLYCOL HEATING SUPPLY</td></tr><tr><td>— H —</td><td>HYDROGEN LINE</td></tr><tr><td>— HE —</td><td>HELIUM LINE</td></tr><tr><td>— HG —</td><td>HIGH PRESSURE GAS</td></tr><tr><td>— HPC —</td><td>HIGH PRESSURE CONDENSATE RETURN</td></tr><tr><td>— LPC —</td><td>LOW PRESSURE CONDENSATE RETURN</td></tr><tr><td>— HPS —</td><td>HIGH PRESSURE STEAM</td></tr><tr><td>— LPS —</td><td>LOW PRESSURE STEAM</td></tr><tr><td>— MPS —</td><td>MEDIUM PRESSURE STEAM</td></tr><tr><td>— HWR —</td><td>LOW TEMPERATURE HOT WATER RETURN</td></tr><tr><td>— HWS —</td><td>LOW TEMPERATURE HOT WATER SUPPLY</td></tr><tr><td>— LN —</td><td>LIQUID NITROGEN LINE</td></tr></table> | | — A — | COMPRESSED AIR LINE | — ACID — | ACID WASTE LINE | — AR — | ARGON LINE | — ATV — | AIR RELIEF LINE | — B — | BRINE SUPPLY LINE | — BR — | BRINE RETURN LINE | — BBD — | BOILER BLOW DOWN | — C — | CONDENSATE LINE | — CR — | CONDENSATE RETURN | — CHWR — | CHILLED WATER RETURN | — CHWS — | CHILLED WATER SUPPLY | — CWR — | CONDENSER WATER RETURN | — CWS — | CONDENSER WATER SUPPLY | — CS — | CHEMICAL SUPPLY PIPE | — D — | DRAIN LINE | — DTR — | DUAL TEMPERATURE RETURN LINE | — DTS — | DUAL TEMPERATURE SUPPLY | — FILL — | FILL LINE | — FOD — | FUEL OIL DISCHARGE | — FOF — | FUEL OIL FLOW LINE | — FOG — | FUEL OIL GAUGE LINE | — FOR — | FUEL OIL RETURN | — FOS — | FUEL OIL SUCTION SUPPLY | — FOV — | FUEL OIL TANK VENT | — FW — | FEEDWATER | — G — | NATURAL GAS LINE | — MG — | MEDIUM PRESSURE NATURAL GAS LINE | — GHR — | GLYCOL HEATING RETURN | — GHS — | GLYCOL HEATING SUPPLY | — H — | HYDROGEN LINE | — HE — | HELIUM LINE | — HG — | HIGH PRESSURE GAS | — HPC — | HIGH PRESSURE CONDENSATE RETURN | — LPC — | LOW PRESSURE CONDENSATE RETURN | — HPS — | HIGH PRESSURE STEAM | — LPS — | LOW PRESSURE STEAM | — MPS — | MEDIUM PRESSURE STEAM | — HWR — | LOW TEMPERATURE HOT WATER RETURN | — HWS — | LOW TEMPERATURE HOT WATER SUPPLY | — LN — | LIQUID NITROGEN LINE | <table><tr><td>— CI —</td><td>CAST IRON PIPE</td></tr><tr><td>— CT —</td><td>CLAY TILE PIPE</td></tr><tr><td>— DI —</td><td>DUCTILE IRON PIPE</td></tr><tr><td>— ICW —</td><td>INDUSTRIAL COLD WATER LINE</td></tr><tr><td>— IHR —</td><td>INDUSTRIAL HOT WATER RETURN</td></tr><tr><td>— IHW —</td><td>INDUSTRIAL WASTE LINE</td></tr><tr><td>— INW —</td><td>INDUSTRIAL HOT WATER SUPPLY</td></tr><tr><td>— RCP —</td><td>REINFORCED CONCRETE PIPE</td></tr><tr><td>— CSP —</td><td>COMBINATION STAND PIPE</td></tr><tr><td>— DSP —</td><td>DRY STAND PIPE</td></tr><tr><td>— F —</td><td>FIRE LINE</td></tr><tr><td>— S —</td><td>FIRE SPRINKLER LINE—MAIN SUPPLY</td></tr><tr><td>— SP —</td><td>FIRE SPRINKLER LINE</td></tr><tr><td>— WSP —</td><td>WET STAND PIPE</td></tr></table> | | — CI — | CAST IRON PIPE | — CT — | CLAY TILE PIPE | — DI — | DUCTILE IRON PIPE | — ICW — | INDUSTRIAL COLD WATER LINE | — IHR — | INDUSTRIAL HOT WATER RETURN | — IHW — | INDUSTRIAL WASTE LINE | — INW — | INDUSTRIAL HOT WATER SUPPLY | — RCP — | REINFORCED CONCRETE PIPE | — CSP — | COMBINATION STAND PIPE | — DSP — | DRY STAND PIPE | — F — | FIRE LINE | — S — | FIRE SPRINKLER LINE—MAIN SUPPLY | — SP — | FIRE SPRINKLER LINE | — WSP — | WET STAND PIPE | <table><tr><td></td><td>PRESSURE SWITCH</td></tr><tr><td></td><td>FLOW SWITCH</td></tr><tr><td></td><td>TEMPERATURE SENSOR</td></tr><tr><td></td><td>THERMOSTAT</td></tr><tr><td></td><td>NIGHT THERMOSTAT</td></tr><tr><td></td><td>ROOF DRAIN (RD)</td></tr><tr><td></td><td>ROOF DRAIN OVERFLOW (ROO)</td></tr><tr><td></td><td>FLOOR DRAIN (FD)</td></tr><tr><td></td><td>VENT THROUGH ROOF (VTR)</td></tr><tr><td></td><td>PRESSURE GAUGE W/ NEEDLE VALVE</td></tr><tr><td></td><td>THERMOMETER</td></tr><tr><td></td><td>AUTOMATIC AIR VENT</td></tr><tr><td></td><td>MANUAL AIR VENT</td></tr><tr><td></td><td>FLOW ARROW</td></tr><tr><td></td><td>DIRECTION OF PIPE SLOPE (DOWN)</td></tr></table> | | | PRESSURE SWITCH | | FLOW SWITCH | | TEMPERATURE SENSOR | | THERMOSTAT | | NIGHT THERMOSTAT | | ROOF DRAIN (RD) | | ROOF DRAIN OVERFLOW (ROO) | | FLOOR DRAIN (FD) | | VENT THROUGH ROOF (VTR) | | PRESSURE GAUGE W/ NEEDLE VALVE | | THERMOMETER | | AUTOMATIC AIR VENT | | MANUAL AIR VENT | | FLOW ARROW | | DIRECTION OF PIPE SLOPE (DOWN) | <table><tr><td></td><td>PLUMBING FIXTURE DESIGNATION</td></tr><tr><td></td><td>EQUIPMENT SYMBOL</td></tr><tr><td></td><td>REVISION MARKER</td></tr><tr><td></td><td>KEYED NOTE IDENTIFICATION</td></tr><tr><td></td><td>REMOVE EXISTING, UP TO THIS POINT POINT OF DEMOLITION</td></tr><tr><td></td><td>POINT OF CONNECTION TO EXISTING</td></tr></table> | | | PLUMBING FIXTURE DESIGNATION | | EQUIPMENT SYMBOL | | REVISION MARKER | | KEYED NOTE IDENTIFICATION | | REMOVE EXISTING, UP TO THIS POINT POINT OF DEMOLITION | | POINT OF CONNECTION TO EXISTING | <table><tr><td></td><td>FILLET WELD SYMBOL</td></tr><tr><td></td><td>BEVEL GROOVE WELD SYMBOL</td></tr><tr><td></td><td>BEVEL GROOVE WELD SYMBOL</td></tr><tr><td></td><td>FIELD WELD</td></tr></table> | | | FILLET WELD SYMBOL | | BEVEL GROOVE WELD SYMBOL | | BEVEL GROOVE WELD SYMBOL | | FIELD WELD | <table><tr><td></td><td>NEW EQUIPMENT AND MATERIAL</td></tr><tr><td></td><td>EXISTING EQUIPMENT AND MATERIAL</td></tr><tr><td></td><td>TRANSFORMER</td></tr><tr><td></td><td>VARIABLE FREQUENCY DRIVE</td></tr><tr><td></td><td>SAFETY SWITCH 600V, 30A</td></tr><tr><td></td></tr></table> | | | NEW EQUIPMENT AND MATERIAL | | EXISTING EQUIPMENT AND MATERIAL | | TRANSFORMER | | VARIABLE FREQUENCY DRIVE | | SAFETY SWITCH 600V, 30A | | | | | | | | | | | | | | | | 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| | PLUMBING FIXTURE DESIGNATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | REVISION MARKER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | REMOVE EXISTING, UP TO THIS POINT POINT OF DEMOLITION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | TRANSFORMER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VARIABLE FREQUENCY DRIVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SAFETY SWITCH 600V, 30A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  <p>State of Utah—Department of Administrative Services</p> <p>DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT</p> <p>4110 State Office Building/Salt Lake City, Utah 84114/208-2618</p> | | |
|--|--------------|-------------|
| CONSULTANTS | | |
| <div style="float: left; width: 15%;">  </div> <div style="float: right; width: 85%;"> <p>Intermountain Consumer Professional Engineers, Inc.</p> <p>CONSULTING ENGINEERS 1145 E. SOUTH UNION AVE. MIDVALE, UTAH 84047 BUS. (801) 255-1111 FAX: 566-0088</p> </div> | | |
| | | |
| <div style="text-align: center;">  <p>No. 166518 CRAIG M. YOUNG</p> </div> | | |
| <h1 style="margin: 0;">SNOW COLLEGE</h1> <hr style="border: none; border-top: 2px solid black; margin: 10px 0;"/> <h2 style="margin: 0;">EPHRAIM, UTAH</h2> <hr style="border: none; border-top: 2px solid black; margin: 10px 0;"/> <h3 style="margin: 0;">HEATING PLANT BOILER #3 REPLACEMENT</h3> <hr style="border: none; border-top: 2px solid black; margin: 10px 0;"/> <p>STATE PROPERTY ID. #01794</p> <p>DFCM PROJECT #06166700</p> | | |
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| | | |
| MARK | DATE | DESCRIPTION |
| ISSUE DATE: | 07/17/06 | |
| PROJECT NO: | 02-152 | |
| CAD DWG FILE: | M-FP-102.dwg | |
| DRAWN BY: | ERK | |
| CHECKED BY: | CMY | |
| SHEET TITLE | | |
| MECHANICAL REMDEL FLOOR PLAN AND ROOF PLAN | | |
| M — 102 | | |
| SHEET 4 OF 20 | | |



- ① NATURAL GAS TRAIN AND PILOT ASSEMBLY TO BE PROVIDED BY BURNER MANUFACTURER.
- ② NEW 8" HIGH PRESSURE STEAM LINE.
- ③ BURNER CONTROL PANEL PROVIDED BY BURNER MANUFACTURER.
- ④ BURNER ASSEMBLY TO BE PROVIDED WITH BURNER.
- ⑤ NEW 3" NATURAL GAS LINE.
- ⑥ PIPING AND VALVES TO THIS POINT TO BE CERTIFIED AND FABRICATED TO ASME BOILER CODE REQUIREMENTS.
- ⑦ PROVIDE FLASHING ON ALL PENETRATIONS UP THROUGH ROOF.
- ⑧ BOILER STACK VENT.
- ⑨ BOILER RELIEF VENTS (TYPICAL OF TWO).
- ⑩ GATE VALVE DISCHARGE DRAIN TO GRADE.
- ⑪ NEW STEAM FLOW METER.
- ⑫ 3/4" DRAIN LINE FROM DRIP ELBOW SAFETY VENTS TO NEAREST DRAIN.
- ⑬ FEED WATER CONTROL VALVE ASSEMBLY.



| MARK | DATE | DESCRIPTION |
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| ISSUE DATE: | 07/17/06 | |
| PROJECT NO: | 02-152 | |
| CAD DWG FILE: | M-SC-301.dwg | |
| DRAWN BY: | ERK | |
| CHECKED BY: | CMY | |

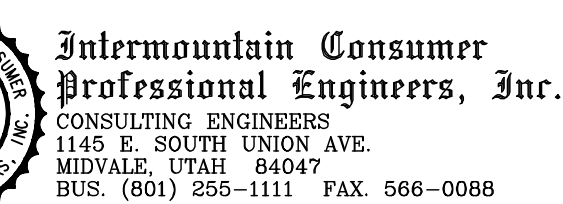
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|-------------|
| SHEET TITLE |
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MECHANICAL
SECTIONS

M - 301
SHEET 6 OF 20



CONSULTANTS



EPHRAIM, UTAH

HEATING PLANT BOILER #3 REPLACEMENT

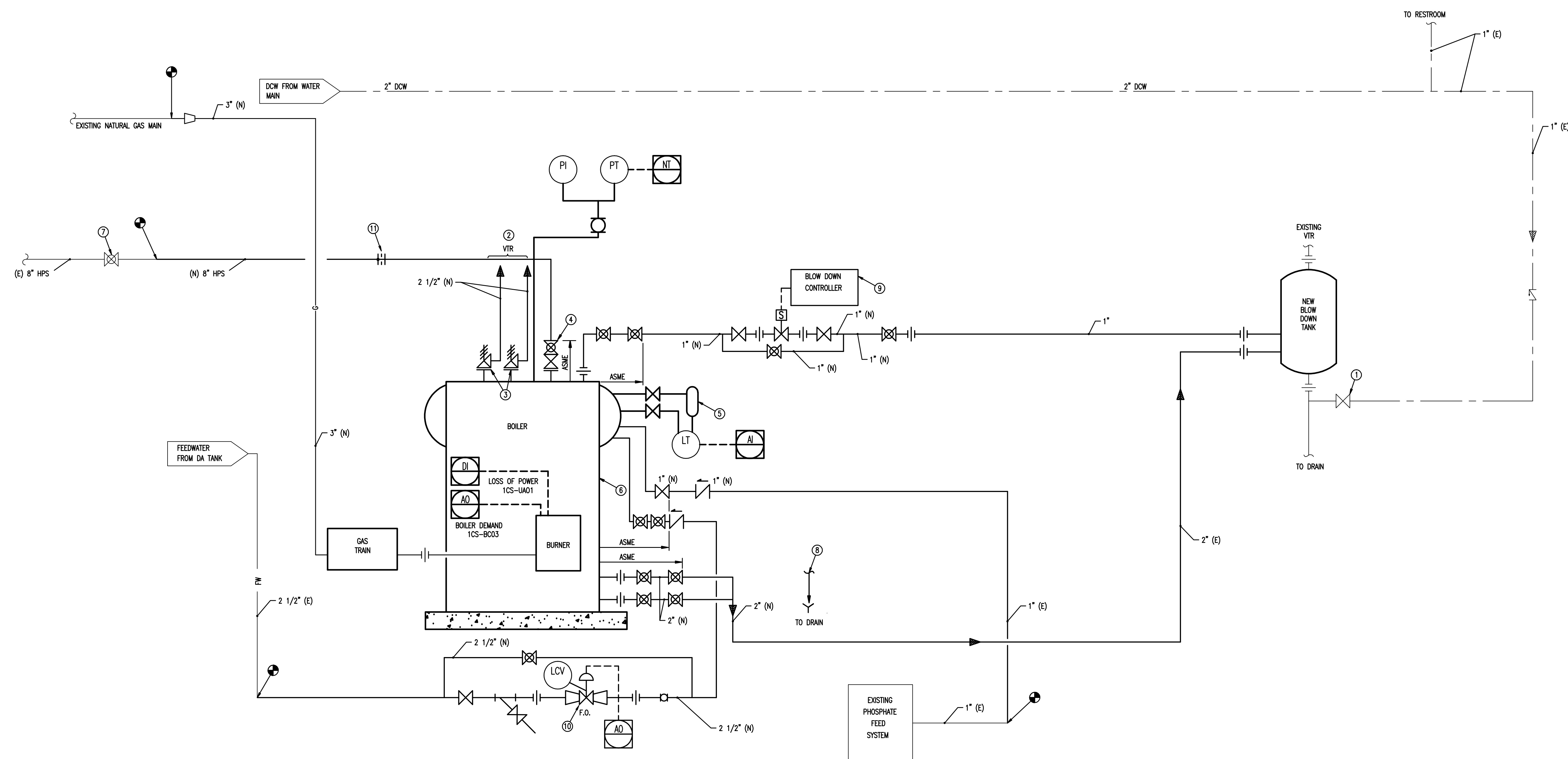
STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

| MARK | DATE | DESCRIPTION |
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| ISSUE DATE: | 07/17/06 | |
| PROJECT NO: | 02-152 | |
| CAD DWG FILE: | M-DG-601.dwg | |
| DRAWN BY: | ERK | |
| CHECKED BY: | CMY | |

SHEET TITLE

FUEL SYSTEM
FLOW DIAGRAM AND
P & ID

M - 601
SHEET 7 OF 20



FUEL SYSTEM FLOW DIAGRAM AND P&ID
N.T.S.

Keyed Notes

- ① EXISTING GLOBE VALVE.
- ② CONSULT WITH BOILER MANUFACTURER FOR EXACT PIPING SIZES FOR THESE VAPOR LINES. SEE SHEET M-602 FOR MORE DETAILS.
- ③ PROVIDE DRIP PAN ELBOW. SEE SHEET M-602 FOR MORE DETAILS. SIZE ELBOW PER BOILER MANUFACTURER.
- ④ ASME RATED SHUT-OFF AND STOP/CHECK VALVES.
- ⑤ PROVIDE CONDENSATE POT.
- ⑥ NEW BOILER.
- ⑦ EXISTING SHUT-OFF VALVE.
- ⑧ ROUTE ALL BOILER DRAIN, GAGE AND GLASS BLOWDOWN LINES TO GRADE. PROVIDE FUNNEL TO COLLECT BLOWDOWN AND DRAIN.
- ⑨ BLOWDOWN CONTROLLER.
- ⑩ FEED WATER CONTROL VALVE ASSEMBLY.
- ⑪ INSTALL STEAM FLOW METER IN 8" STEAM LINE.

General Notes

1. SEE INSTRUMENTATION STANDARD DETAILS AND INSTRUMENT I/O LIST FOR ADDITIONAL REQUIREMENTS, PIPING SIZES, INSTRUMENTATION TAG NUMBERS, ETC. THESE ITEMS ARE LOCATED AT THE END OF SPECIFICATION MANUAL.
2. OFFSET EXISTING AND NEW PIPING AS NEEDED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.

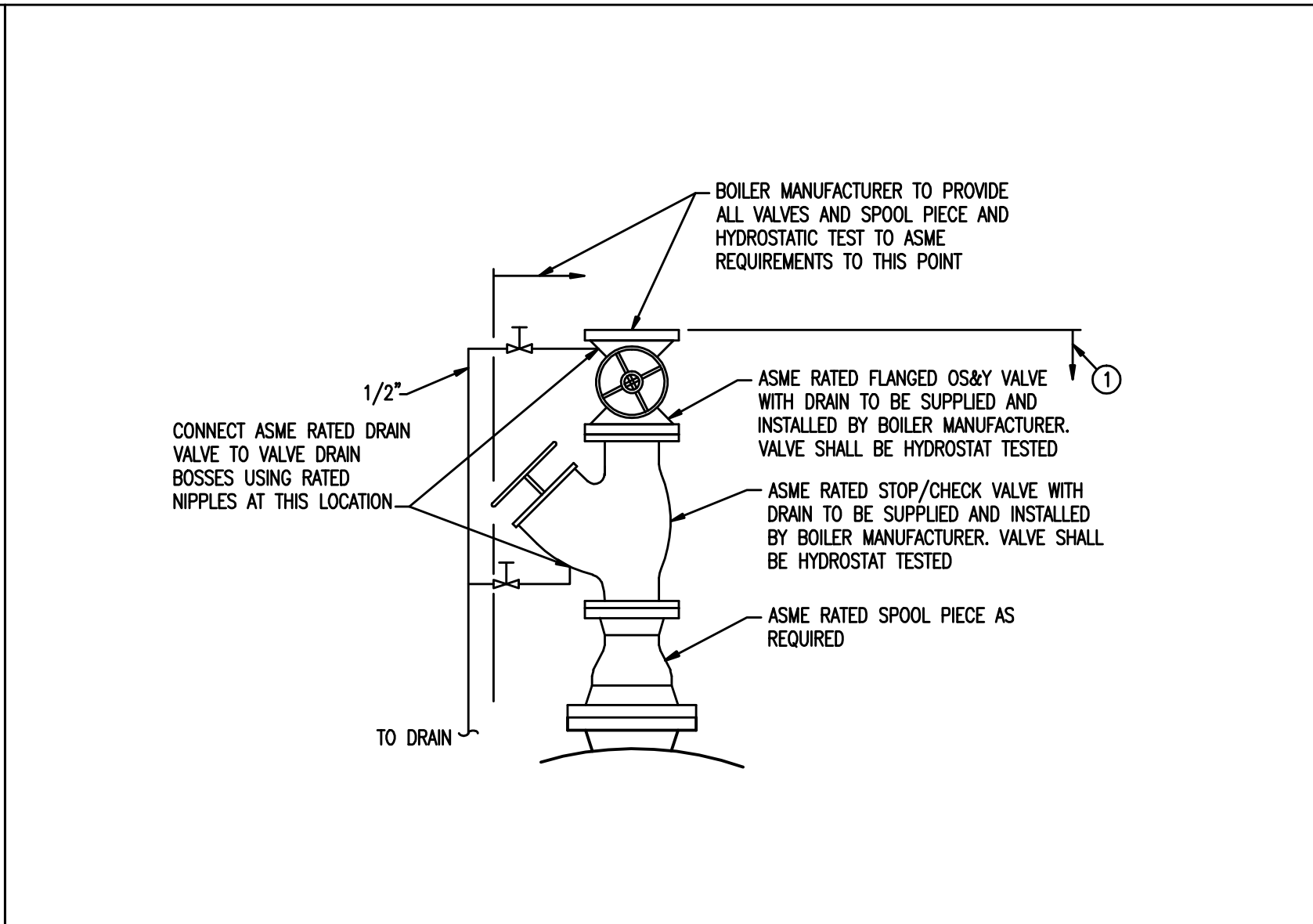
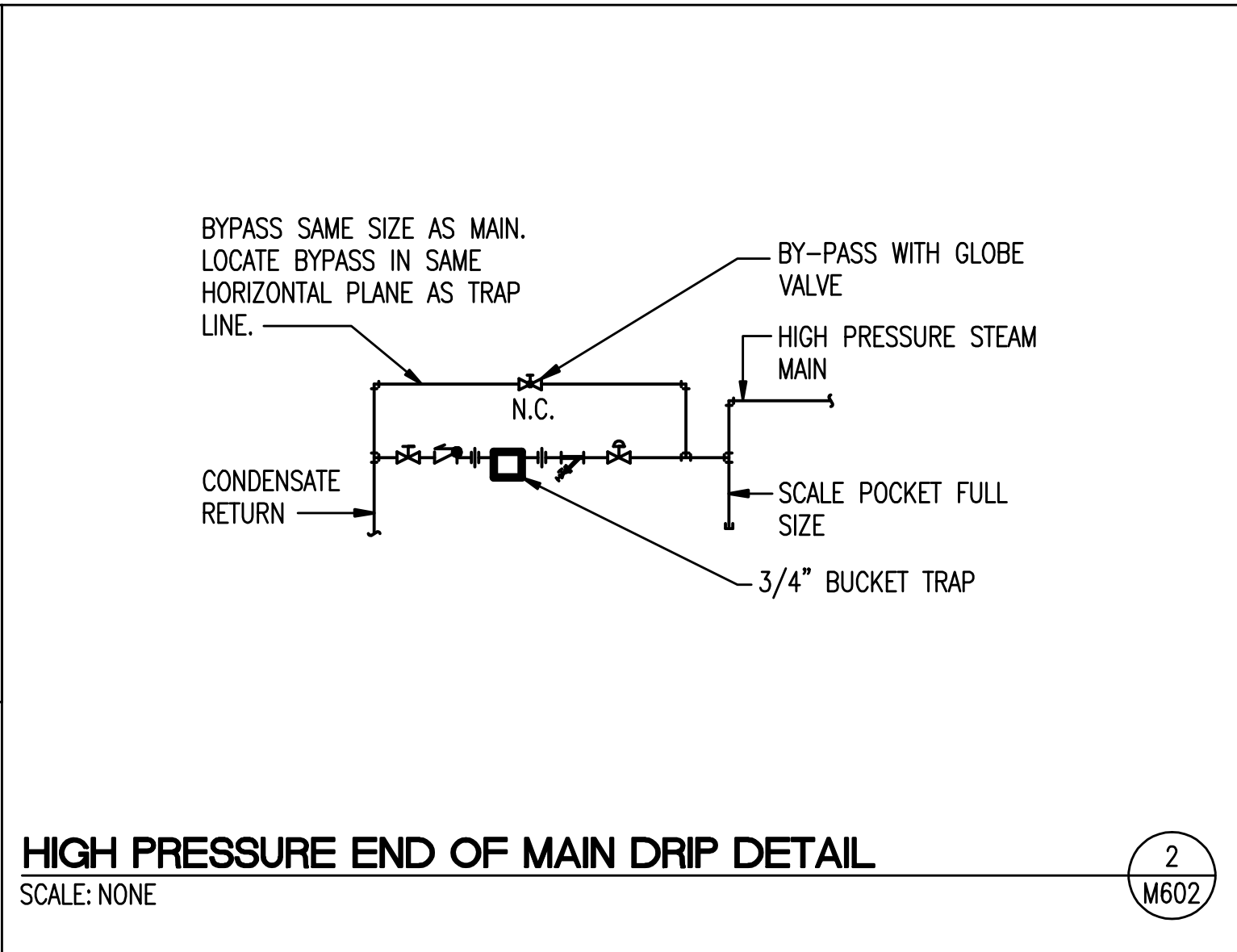
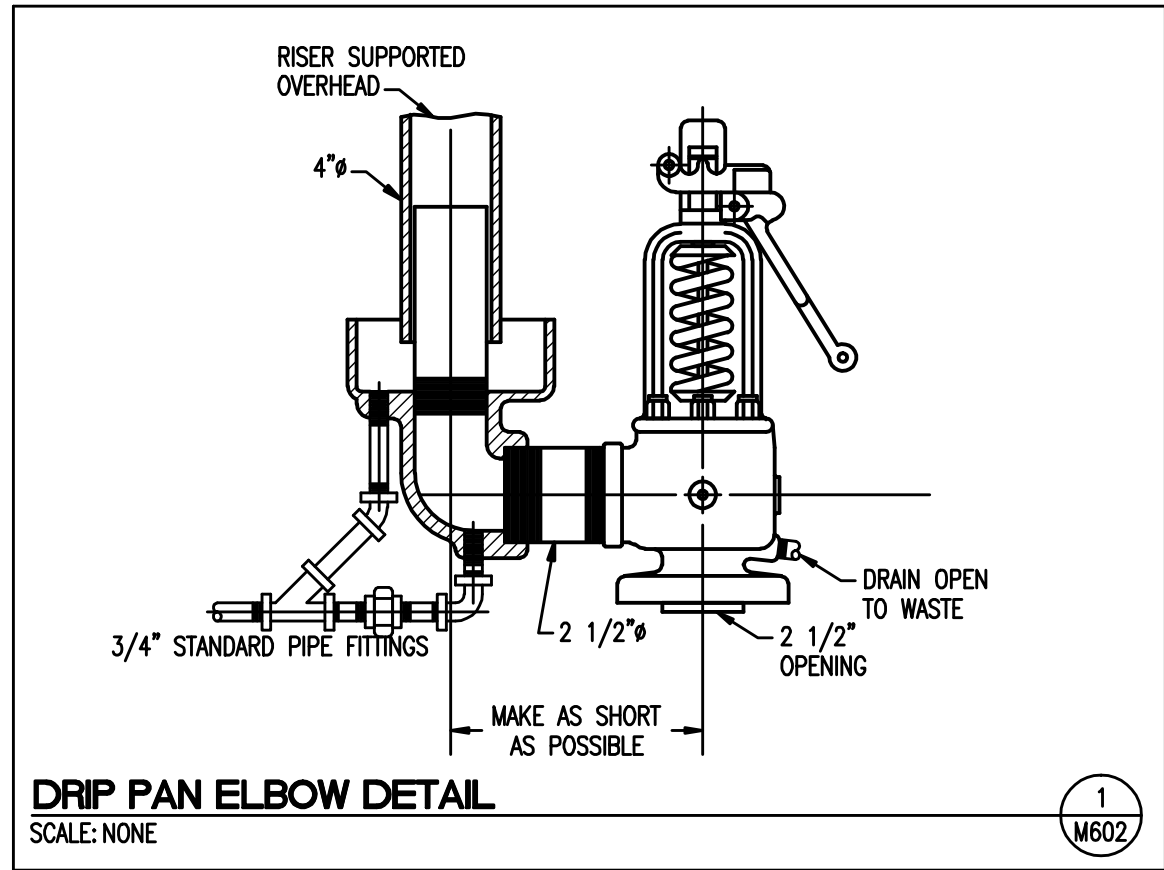
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


Keyed Notes

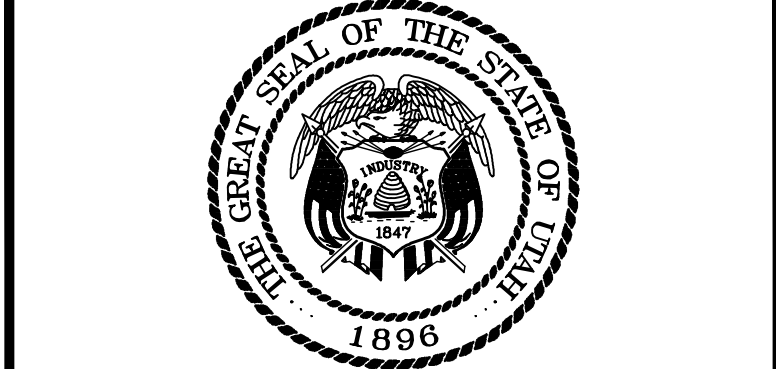
① PIPING AND VALVES TO THIS POINT TO BE CERTIFIED AND FABRICATED TO ASME BOILER CODE REQUIREMENTS.

| STEAM BOILER SCHEDULE | | | | | | | | | | | |
|------------------------|-------------------------------------|--------------------------|---------------------|------------------------|-----------------|------------|--------------|------------|--------------|--------------------------|------------------------------------|
| SYMBOL | MANUFACTURER/MODEL | MAX. STEAM PSI OUTPUT | OUTPUT MBH@ELEV. | STEAM FLOW LBS./HR. | HEATING SURFACE | | FUEL TYPE | GAS MBH | BOILER HP | SHIPPING WEIGHT (LBS) | REMARKS |
| | | | | | FIRE SIDE | WATER SIDE | | | | | |
| <div><div></div></div> | BURNHAM SERIES 4S MODEL 4SPX-500 | 150 | 16,738 | 17,250 | 2506 | 2715 | NATURAL GAS | 20,922 | 500 | 32,200 | PROVIDE 20,000 LBS/HR SAFETY VALVE |

- (1) PROVIDE LOW WATER CUT-OUT.
(2) ALL CAPACITIES ARE FOR SITE ALTITUDE AT 5669 FT ABOVE SEA LEVEL.
(3) PROVIDE WITH FACTORY INSTALLED FOR PIPING.

| BLOWDOWN SEPARATOR SCHEDULE | | | | | | | | | | | | | | | |
|---|-------------------------------|---------------|-------------|---------------|---------------|--------------|-----------------------|-----------------------------------|------------|--------|---------------------------------|-------------------------------|------------------------------|-------------------------|----------------------------|
| SYMBOL | MANUFACTURER AND MODEL NO. | LOCATION | TYPE | INLET SIZE | DRAIN SIZE | VENT SIZE | AFTERCOOLER HEIGHT | COOLING WATER TEMP. (°F) | DIMENSIONS | | BLOWDOWN TEMPERATURE (°F) | BLOWDOWN PRESSURE (PSI) | FEEDWATER VOLUME (GAL) | DRY WEIGHT (LBS.) | ACCESSORIES AND REMARKS |
| | | | | | | | | | DIA. | HEIGHT | | | | | |
|  | BRYAN BDS-1630-D34 | HEATING PLANT | ATMOSPHERIC | 1" | 4" | 5" | 20" | 45 | 10" | 30" | 338 | 100 | 8.0 | 129 | ① |

- ① AFTER COOLER COMPLETE WITH AUTOMATIC WATER VALVE AND THERMOSTAT.

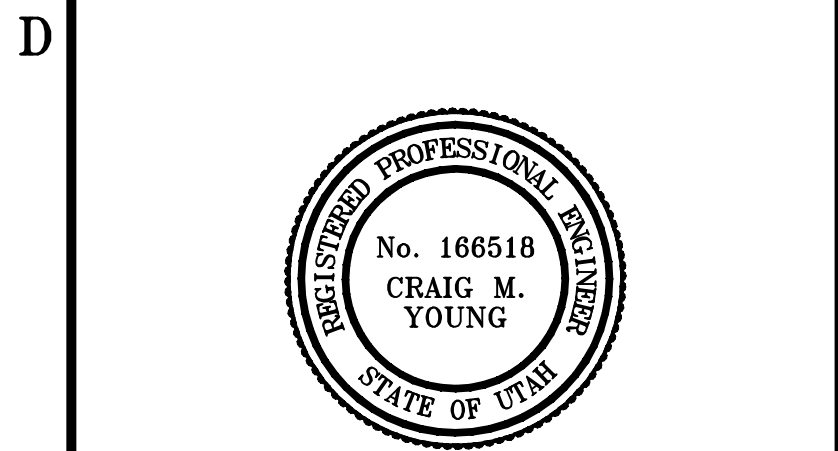


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BUS. (801) 255-1111 FAX. 566-0088



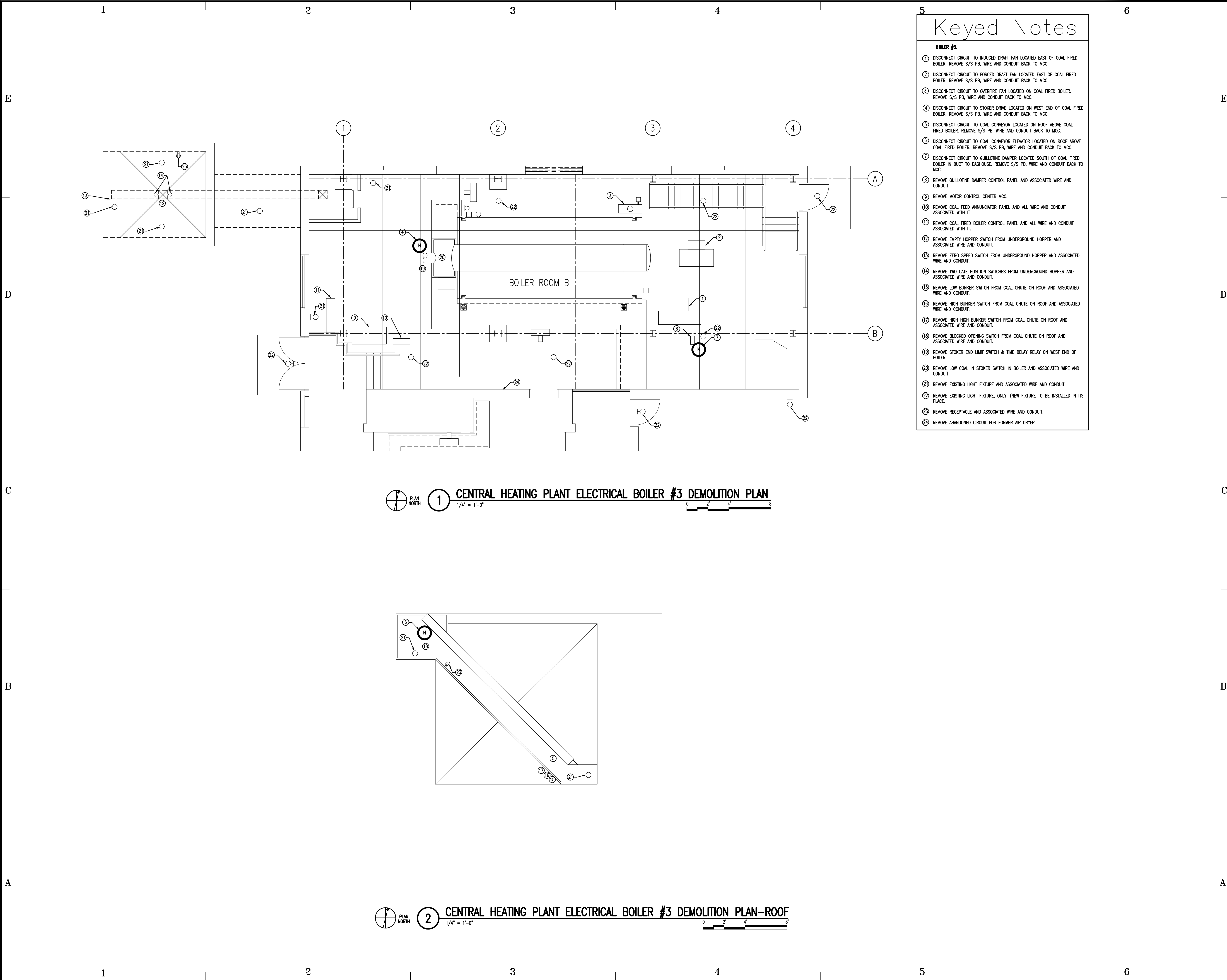
SNOW
COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT


STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

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| MARK | DATE | DESCRIPTION |
| ISSUE DATE: | | 07/17/06 |
| PROJECT NO: | | 02-152 |
| CAD DWG FILE: | | M-DT-602.dwg |
| DRAWN BY: | | ERK |
| CHECKED BY: | | CMY |
| SHEET TITLE | | |
| MECHANICAL DETAILS AND SCHEMATICS | | |
| M - 602 SHEET 8 OF 20 | | |



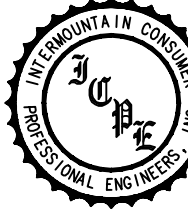
Keyed Notes

- BOILER #3.**
- 1 DISCONNECT CIRCUIT TO INDUCED DRAFT FAN LOCATED EAST OF COAL FIRED BOILER. REMOVE S/S PB, WIRE AND CONDUIT BACK TO MCC.
 - 2 DISCONNECT CIRCUIT TO FORCED DRAFT FAN LOCATED EAST OF COAL FIRED BOILER. REMOVE S/S PB, WIRE AND CONDUIT BACK TO MCC.
 - 3 DISCONNECT CIRCUIT TO OVERFIRE FAN LOCATED ON COAL FIRED BOILER. REMOVE S/S PB, WIRE AND CONDUIT BACK TO MCC.
 - 4 DISCONNECT CIRCUIT TO STOKER DRIVE LOCATED ON WEST END OF COAL FIRED BOILER. REMOVE S/S PB, WIRE AND CONDUIT BACK TO MCC.
 - 5 DISCONNECT CIRCUIT TO COAL CONVEYOR LOCATED ON ROOF ABOVE COAL FIRED BOILER. REMOVE S/S PB, WIRE AND CONDUIT BACK TO MCC.
 - 6 DISCONNECT CIRCUIT TO COAL CONVEYOR ELEVATOR LOCATED ON ROOF ABOVE COAL FIRED BOILER. REMOVE S/S PB, WIRE AND CONDUIT BACK TO MCC.
 - 7 DISCONNECT CIRCUIT TO GUILLOTINE DAMPER LOCATED SOUTH OF COAL FIRED BOILER IN DUCT TO BAGHOUSE. REMOVE S/S PB, WIRE AND CONDUIT BACK TO MCC.
 - 8 REMOVE GUILLOTINE DAMPER CONTROL PANEL AND ASSOCIATED WIRE AND CONDUIT.
 - 9 REMOVE MOTOR CONTROL CENTER MCC.
 - 10 REMOVE COAL FEED ANNUNCIATOR PANEL AND ALL WIRE AND CONDUIT ASSOCIATED WITH IT.
 - 11 REMOVE COAL FIRED BOILER CONTROL PANEL AND ALL WIRE AND CONDUIT ASSOCIATED WITH IT.
 - 12 REMOVE EMPTY HOPPER SWITCH FROM UNDERGROUND HOPPER AND ASSOCIATED WIRE AND CONDUIT.
 - 13 REMOVE ZERO SPEED SWITCH FROM UNDERGROUND HOPPER AND ASSOCIATED WIRE AND CONDUIT.
 - 14 REMOVE TWO GATE POSITION SWITCHES FROM UNDERGROUND HOPPER AND ASSOCIATED WIRE AND CONDUIT.
 - 15 REMOVE LOW BUNKER SWITCH FROM COAL CHUTE ON ROOF AND ASSOCIATED WIRE AND CONDUIT.
 - 16 REMOVE HIGH BUNKER SWITCH FROM COAL CHUTE ON ROOF AND ASSOCIATED WIRE AND CONDUIT.
 - 17 REMOVE HIGH HIGH BUNKER SWITCH FROM COAL CHUTE ON ROOF AND ASSOCIATED WIRE AND CONDUIT.
 - 18 REMOVE BLOCKED OPENING SWITCH FROM COAL CHUTE ON ROOF AND ASSOCIATED WIRE AND CONDUIT.
 - 19 REMOVE STOKER END LIMIT SWITCH & TIME DELAY RELAY ON WEST END OF BOILER.
 - 20 REMOVE LOW COAL IN STOKER SWITCH IN BOILER AND ASSOCIATED WIRE AND CONDUIT.
 - 21 REMOVE EXISTING LIGHT FIXTURE AND ASSOCIATED WIRE AND CONDUIT.
 - 22 REMOVE EXISTING LIGHT FIXTURE, ONLY. (NEW FIXTURE TO BE INSTALLED IN ITS PLACE.
 - 23 REMOVE RECEPTACLE AND ASSOCIATED WIRE AND CONDUIT.
 - 24 REMOVE ABANDONED CIRCUIT FOR FORMER AIR DRYER.



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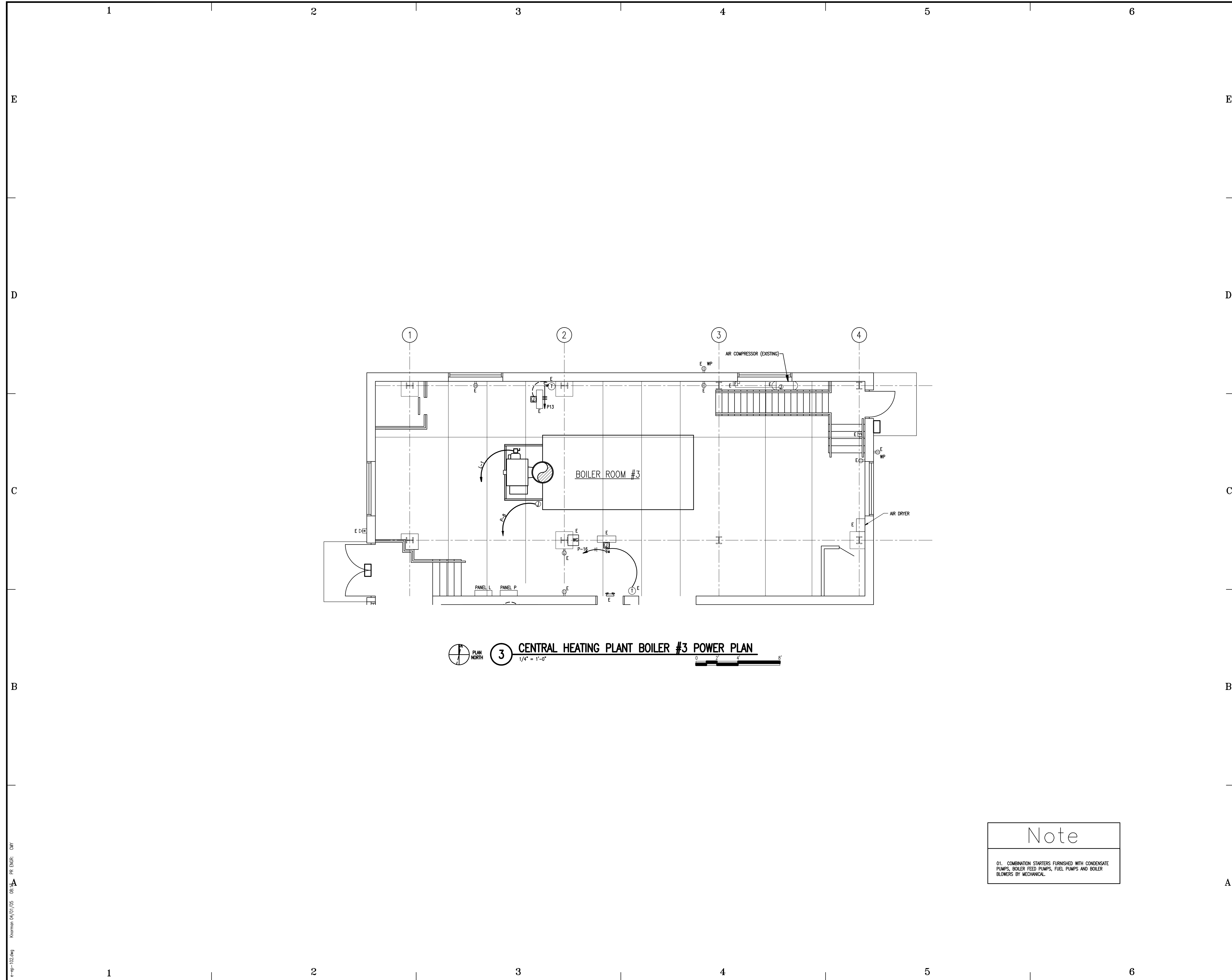
**SNOW
COLLEGE**

EPHRAIM, UTAH

**HEATING PLANT
BOILER #3
REPLACEMENT**

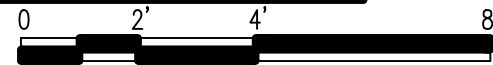
STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

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| MARK | DATE | DESCRIPTION |
| ISSUE DATE: 7/17/2006 | | |
| PROJECT NO: 02-152 | | |
| CAD DWG FILE: E-DP-101.dwg | | |
| DRAWN BY: RF | | |
| CHECKED BY: CJH | | |
| | | |
| SHEET TITLE | | |
| CENTRAL HEATING PLANT ELECTRICAL DEMOLITION PLAN | | |
| E - 101 | | |
| SHEET OF | | |



3 PLAN NORTH
1/4" = 1'-0"

CENTRAL HEATING PLANT BOILER #3 POWER PLAN



Note

01. COMBINATION STARTERS FURNISHED WITH CONDENSATE PUMPS, BOILER FEED PUMPS, FUEL PUMPS AND BOILER BLOWERS BY MECHANICAL.

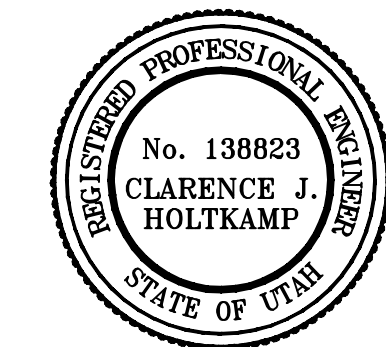


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SNOW
COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

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| ISSUE DATE: 7/17/2006 | | |
| PROJECT NO: 02-152 | | |
| CAD DWG FILE: E-EP-102.dwg | | |
| DRAWN BY: RF | | |
| CHECKED BY: CJH | | |

SHEET TITLE

CENTRAL HEATING PLANT
ELECTRICAL
POWER PLAN

E - 102

SHEET -- OF --

E

D

C

B

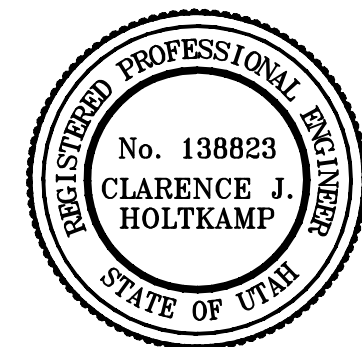
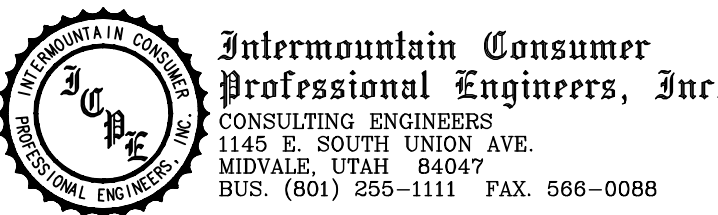
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SNOW COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

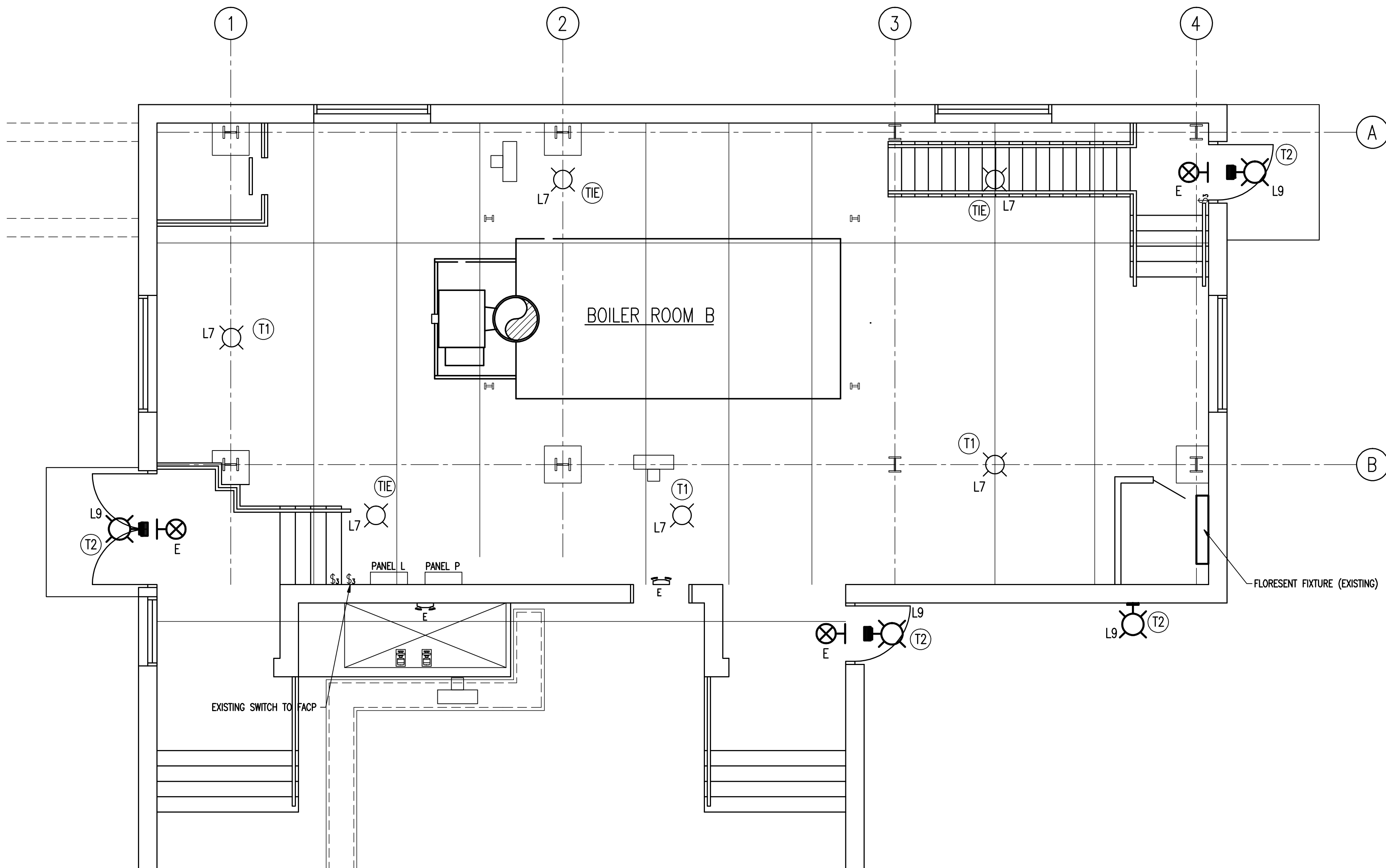
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| ISSUE DATE: 7/17/2006 | | |
| PROJECT NO: 02-152 | | |
| CAD DWG FILE: E-FP-103.dwg | | |
| DRAWN BY: RF | | |
| CHECKED BY: CJH | | |

SHEET TITLE

CENTRAL HEATING PLANT
ELECTRICAL
LIGHTING PLAN

E - 103
SHEET OF

| Fixture Schedule | | | | |
|--------------------------|--------------------|--|--|----------------------|
| Snow College Boiler Room | | | | |
| ID | LOCATION | DESCRIPTION | CAT. NO. | LAMP |
| T1 | INSIDE BOILER ROOM | HI-BAY FLUORESCENT FIXTURE, STEEL BALLAST HOUSING, HIGH HEAT, CLEAR ACRYLIC REFLECTOR, CHAIN MOUNTING, INSTANT ON, 277V. | BETA #BBL18X42-U | 8-42W CFL LAMPS |
| T1E | INSIDE BOILER ROOM | HI-BAY FLUORESCENT FIXTURE, STEEL BALLAST HOUSING, HIGH HEAT, CLEAR ACRYLIC REFLECTOR, CHAIN MOUNTING, INSTANT ON, 277V WITH EMERGENCY BATTERY PACK. | BETA #BBL18X42-U-EM | 8-42W CFL LAMPS |
| T2 | OUTSIDE WALL | ALUMINUM HOUSING, BRONZE, WALL MOUNT, PRISMATIC GLASS LENS W/GASKET, HPF BALLAST, 250W MH LAMP, PHOTOELECTRIC CELL | S1 REGM2-WB-250W- MH-PC-MT-902-DOE 120V W/LAMP | 250W METAL HALIDE |



4 CENTRAL HEATING PLANT BOILER #3 LIGHTING PLAN
1/4" = 1'-0"

Notes

- BOILER #3**
- RE-USE EXISTING RACEWAYS WHERE POSSIBLE FOR NEW LIGHTS. REPLACE EXISTING WIRING WITH NEW WIRING.
 - REPLACE EXISTING THREE-WAY SWITCHES WITH NEW THREE-WAY SWITCHES.
 - MAKE A NEW CIRCUIT INDEX FOR PANEL L AND PANEL P AND INSTALL THEM ON THE INSIDE DOOR OF EACH PANELBOARD. IDENTIFY EACH CIRCUIT IN EACH PANELBOARD. PROVIDE COPY TO ENGINEER.
 - REMOVE ALL ABANDONED WIRE AND CONDUIT IN BOTH ROOMS.

E

D

C

B

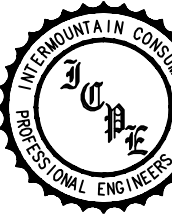
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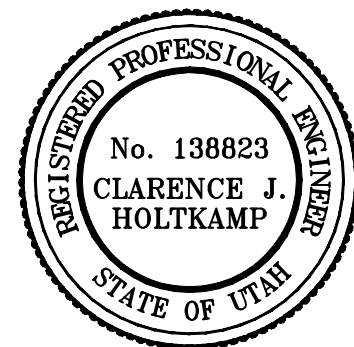


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SNOW
COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

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| PROJECT NO: 02-152 | | |
| CAD DWG FILE: E-EP-104.dwg | | |
| DRAWN BY: RF | | |
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SHEET TITLE

CENTRAL HEATING PLANT
ELECTRICAL
NOTES AND LEGEND

E - 104
SHEET OF

General Notes

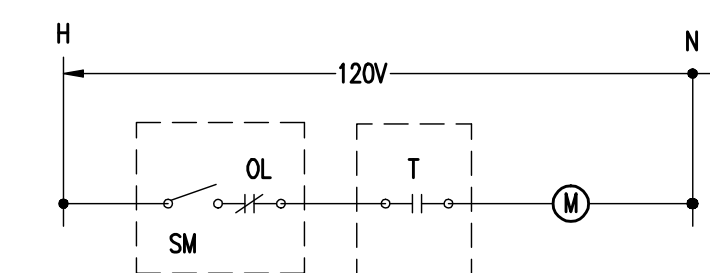
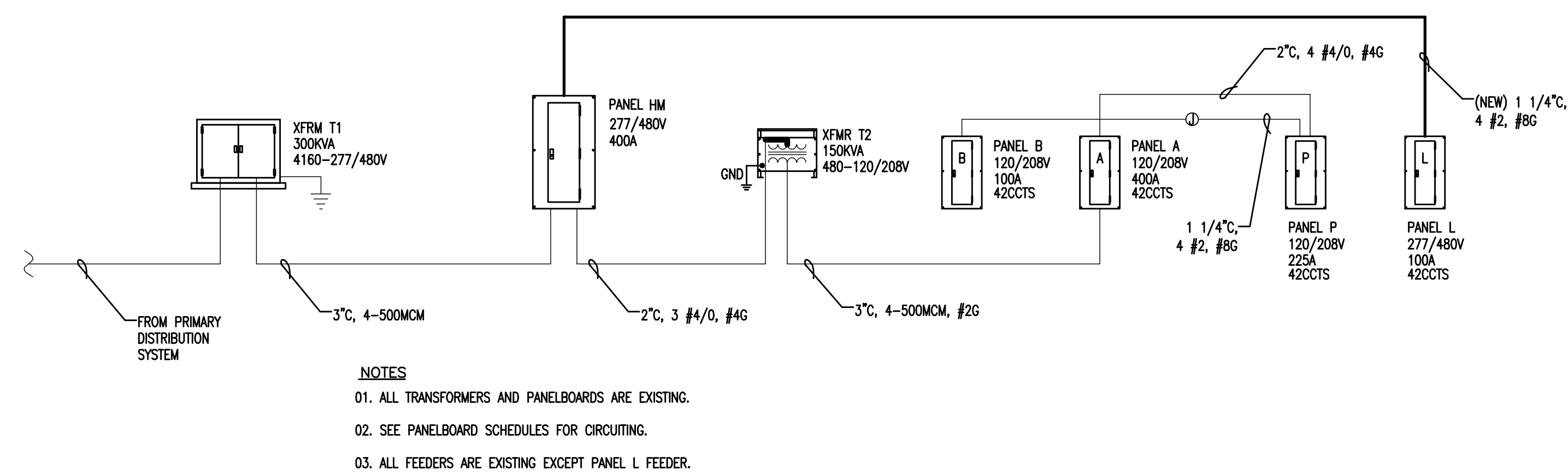
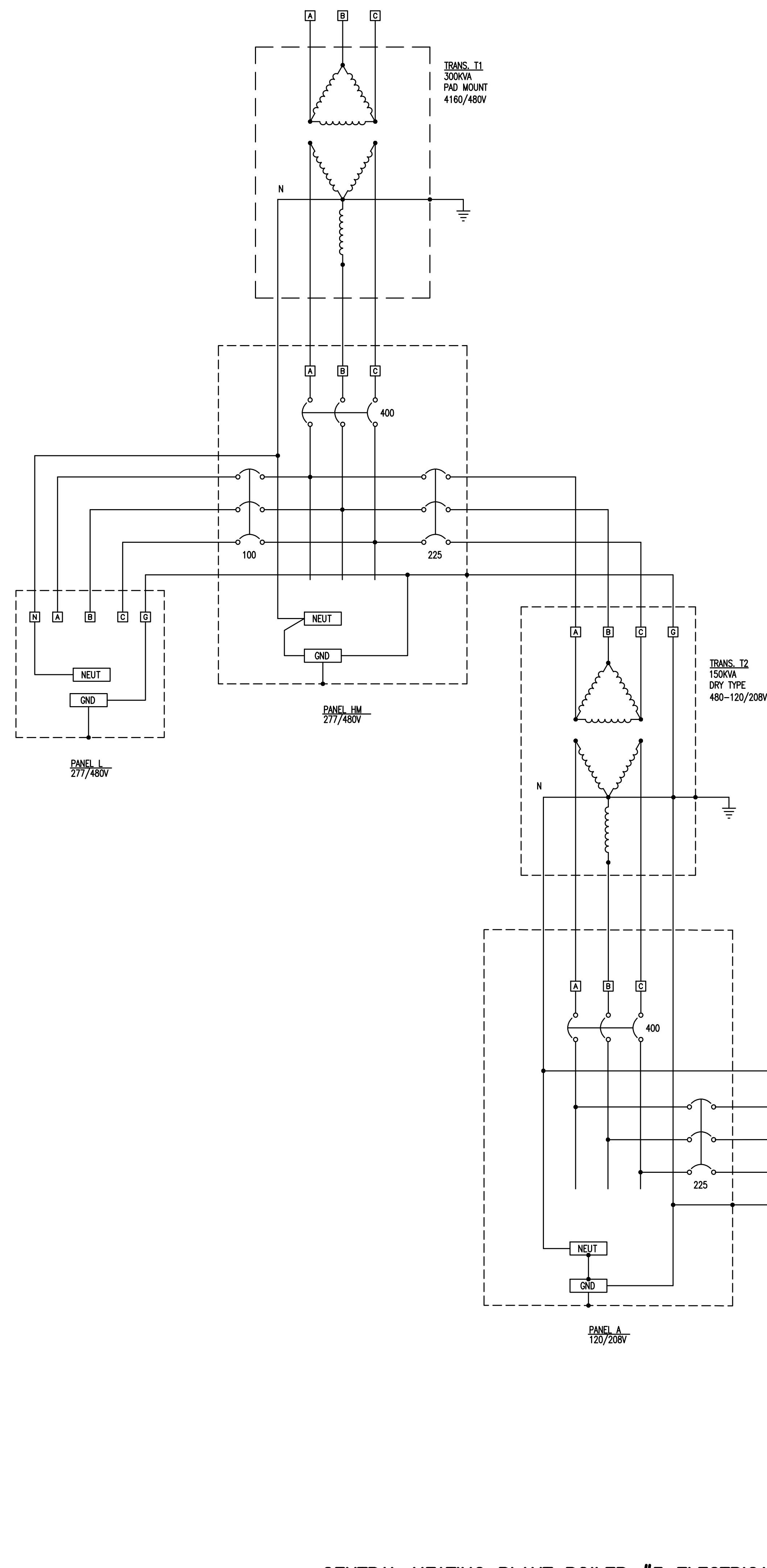
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FULLY AWARE OF THE EXISTING CONDITIONS. VERIFY DIMENSIONS AND EQUIPMENT LOCATIONS. BY SUBMITTING A BID FOR THIS WORK, THE ELECTRICAL CONTRACTOR ACKNOWLEDGES THAT HE IS FULLY AWARE OF THE INTENT OF THESE DRAWINGS AND WILL PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. ALL WORK AND MATERIALS ARE TO BE PROVIDED UNDER THIS BID.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING, PAINTING, AND REPAIR OF SURFACES DAMAGED, REMOVED OR MODIFIED AS A RESULT OF THIS INSTALLATION.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2002 NEC.
- ALL 600V WIRE SHALL BE THIN/THWN COPPER.
- GROUND WIRES SHALL BE INSULATED, GREEN.
- AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE RUN IN ALL CONDUITS SIZED IN ACCORDANCE WITH THE NEC. GROUND WIRES IN CONDUITS SHALL BE INSULATED.
- FOR ANCHORS IN CONCRETE, USE STEEL DROP-IN. NO PLASTIC ANCHORS ALLOWED.
- MINIMUM SIZE CONDUIT SHALL BE 3/4".
- OVERHEAD CONDUIT SHALL BE IMC.
- MAXIMUM SPACING FOR CONDUIT SUPPORTS SHALL BE EIGHT FEET WITH SUPPORTS WITHIN 3 FEET EACH SIDE OF TAPS AND TURNS (TEES OR ELBOWS).
- UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40.
- SEAL ALL PENETRATIONS THROUGH OUTSIDE WALLS WEATHERTIGHT.
- SEE EQUIPMENT LIST FOR RECEPTACLES AND SWITCHES.
- SEE PANEL SCHEDULES FOR BRANCH CIRCUIT WIRE SIZES.
- PROVIDE TO ENGINEER SEVEN COPIES OF SUBMITTALS FOR ALL ITEMS ON EQUIPMENT LIST.
- MAINTAIN A CURRENT SET OF MARKED-UP DRAWINGS, SHOWING ANY CHANGES MADE ON PROJECT AND SUBMIT MARKED-UP DRAWINGS TO ENGINEER AT COMPLETION OF PROJECT SO AS-BUILTS CAN BE MADE.

Electrical Legend

| | | | |
|--|--|--|---|
| | NEW EQUIPMENT AND MATERIAL | | CONDUIT DOWN |
| | EXISTING EQUIPMENT AND MATERIAL | | DUPLEX RECEPTACLE, UPPER OUTLET SWITCH CONTROLLED, 18" A.F.F. |
| | TRANSFORMER | | DUPLEX RECEPTACLE, 18" A.F.F. |
| | VARIABLE FREQUENCY DRIVE | | WEATHERPROOF RECEPTACLE, 18" A.F.G. |
| | SAFETY SWITCH 600V, 30A | | GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE, 18" A.F.F. |
| | TRANSIENT VOLTAGE SURGE SUPPRESSOR | | GROUND FAULT INTERRUPTER DUPLEX WEATHERPROOF RECEPTACLE, 18" A.F.G. |
| | WEATHER PROOF, NEMA 3R ENCLOSURE | | 50A 250V 2 POLE, 3 WIRE GROUNDING RECEPTACLE, 24" A.F.F. |
| | EARTH GROUND | | SPECIAL PURPOSE OUTLET, 24" A.F.F. |
| | NORMALLY CLOSED RELAY CONTACT | | PLUG STRIP, 6" ABOVE WORK BENCH |
| | NORMALLY OPEN RELAY CONTACT | | PANEL BOARD |
| | RECEPTACLE, QUADRAPLEX | | MAIN DISTRIBUTION PANEL |
| | SWITCH, SINGLE BREAK | | TELEPHONE/DATA OUTLET COMBINATION, 18" A.F.F. |
| | EQUIPMENT NUMBER DESIGNATION | | TELEPHONE TERMINAL BOARD |
| | SINGLE POLE SWITCH, 48" A.F.F. | | JUNCTION BOX |
| | THREE-WAY SWITCH, 48" A.F.F. | | MOTOR OUTLET |
| | E-STOP SWITCH | | PUSHBUTTON |
| | 120V MOTOR STARTING SWITCH | | NON-FUSED DISCONNECT SWITCH |
| | FLUORESCENT | | FUSED DISCONNECT SWITCH |
| | MH WAL PAK | | MAGNETIC STARTER |
| | WALL MOUNTED EXIT LIGHT | | MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION |
| | 1 CIRCUIT HOME RUN (1 HOT, 1 NEUTRAL, 1 GROUND) | | MAGNETIC STARTER/FUSED COMBINATION |
| | 2 CIRCUIT HOME RUN (2 HOT, 1 NEUTRAL, 1 GROUND) | | FIRE ALARM MANUAL STATION |
| | 3 CIRCUIT HOME RUN (3 HOT, 1 NEUTRAL, 1 GROUND) | | FIRE ALARM SIGNAL HORN WITH STROBE LIGHT |
| | LIGHT FIXTURE DESIGNATION (LETTER DESIGNATES TYPE) | | SMOKE DETECTOR |
| | CONDUIT CONCEALED IN WALL OR CEILING | | DUCT SMOKE DETECTOR |
| | CONDUIT CONCEALED IN FLOOR OR GROUND | | HEAT DETECTOR |
| | CONDUIT UP | | EXISTING |
| | FIRE ALARM CONTROL PANEL | | WATER COOLER |

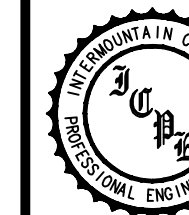
Equipment List

- A. SAFETY SWITCH, HEAVY DUTY, NON-FUSIBLE, 600V, 60A, 3P WITH GROUND BAR, NEMA 1, SQUARE D CAT #HU362
- B. MISCELLANEOUS DEVICES.
- SINGLE POLE TOGGLE SWITCH, 20A, 120V, BROWN, HUBBELL HBL 1221.
- THREE WAY TOGGLE SWITCH, 20A, 120V, BROWN, HUBBELL HBL 1223.

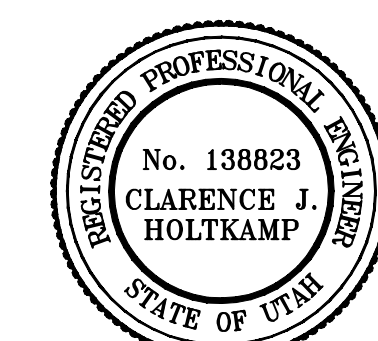


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SNOW
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HEATING PLANT
BOILER #3
REPLACEMENT

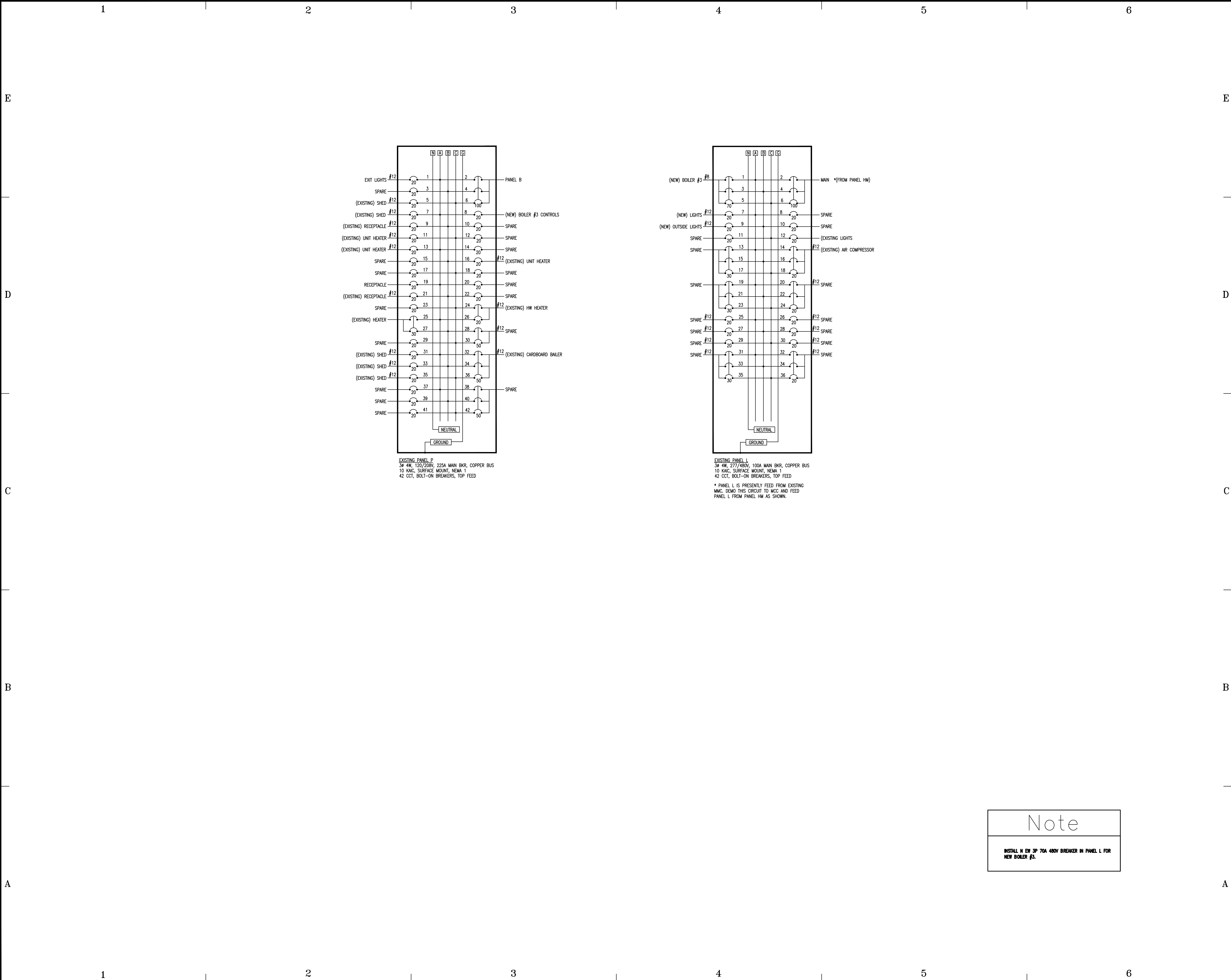
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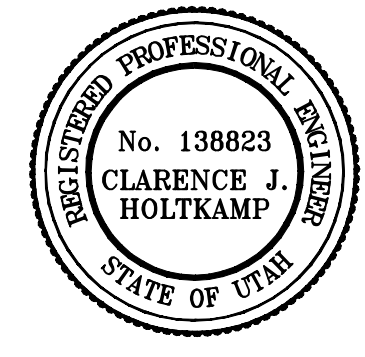
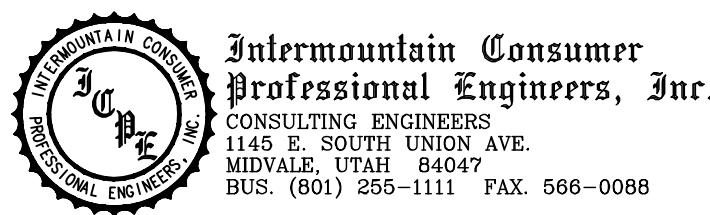
CENTRAL HEATING PLANT ELECTRICAL DIAGRAMS & SCHEMATICS

E - 601
SHEET 22 OF 23



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HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

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| PROJECT NO: | 02-152 | |
| CAD DWG FILE: | E-SH-602.dwg | |
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| CHECKED BY: | CJH | |

SHEET TITLE

CENTRAL HEATING PLANT
ELECTRICAL
PANEL SCHEDULES

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|----------|---|------------|----------|------------|------------|----------|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|----|----|----|----|-----|-----|----|--|--|--|--|--|
| E | CONCRETE NOTES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <div>1. CONCRETE MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO ACI 318-05, ACI 301 AND ISO-03 REQUIREMENTS.</div> <div>2. MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: <div> <div>A. CONCRETE AGGREGATE – ASTM C33 (MAXIMUM SIZE 1 INCH)</div> <div>B. REINFORCING STEEL (REBAR) – ASTM A615 OR ASTM A706 (WELDING), GRADE 60</div> <div>C. CEMENT – PORTLAND CEMENT, ASTM C150, TYPE II OR III, TRICALCIUM ALUMINATE – 8% MAXIMUM</div> <div>D. FLY ASH – ASTM C618, CLASS C OR F, 15% MAXIMUM AS CEMENT REPLACEMENT</div> <div>E. COMPRESSIVE STRENGTH AT 28 DAYS – 4000 PSI MINIMUM</div> <div>F. SLUMP – 3 INCHES MAXIMUM</div> <div>G. WATER TO CEMENT RATIO – 0.4 MAXIMUM</div> <div>H. AIR ENTRAINMENT – 3.5 – 6.5 PERCENT</div> <div>I. CONCRETE WEIGHT – NORMAL</div> <div>J. CHEMICAL ADMIXTURES – ASTM C494</div> <div>K. CALCIUM CHLORIDE – NONE ALLOWED</div> </div> </div> <div>3. MINIMUM COVER, UNLESS NOTED, SHALL BE PROVIDED FOR REBAR CONFORMING TO ACI 318, CHAPTER 7 AS FOLLOWS: <div> <div>A. CONCRETE DEPOSITED DIRECTLY AGAINST GROUND – 3"</div> <div>B. FORMED CONCRETE EXPOSED TO WEATHER OR GROUND – 2"</div> <div>C. FORMED CONCRETE NOT EXPOSED TO WEATHER OR GROUND, AFTER REMOVAL OF FORMS – 1 1/2" FOR COLUMNS, BEAMS AND GIRDERS AND 3/4" FOR OTHERS</div> </div> </div> <div>4. REBAR SPLICES SHALL CONFORM TO ACI 318, SECTIONS 12.2 AND 12.15, WITH LENGTHS (IN INCHES) AS FOLLOWS: <table> <tr> <th>BAR SIZE</th><th>TOP BARS</th><th>OTHER BARS</th><th>BAR SIZE</th><th>TOP BARS</th><th>OTHER BARS</th></tr> <tr> <td>#4</td><td>32</td><td>25</td><td>#8</td><td>80</td><td>61</td></tr> <tr> <td>#5</td><td>40</td><td>31</td><td>#9</td><td>90</td><td>69</td></tr> <tr> <td>#6</td><td>48</td><td>37</td><td>#10</td><td>101</td><td>78</td></tr> <tr> <td>#7</td><td>70</td><td>53</td><td>#11</td><td>112</td><td>86</td></tr> </table> <div>TOP BARS ARE HORIZONTAL PLACED ABOVE 12 INCHES OF CAST CONCRETE. DISTANCE BETWEEN REBAR SHALL BE GREATER THAN TWICE REBAR DIAMETER.</div> </div> <div>5. REBAR SHALL BE DETAILED CONFORMING WITH THE ACI DETAILING MANUAL, 1994 EDITION.</div> <div>6. REBAR #4 AND LARGER SHALL BE SHOP FABRICATED, BUNDLED AND TAGGED WITH DRAWING NUMBER AND MARK NUMBER.</div> <div>7. CONSTRUCTION JOINT LOCATIONS NOT SHOWN ON DRAWINGS SHALL BE ENGINEER APPROVED.</div> <div>8. REBAR SHALL BE CONTINUOUS AT STRUCTURE CORNERS AND INTERSECTIONS.</div> <div>9. CONCRETE SLABS NOT PLACED ON EXISTING CONCRETE SHALL BE PLACED ON COMPACTED CRUSHED GRAVEL WITH PARTICLE SIZE BETWEEN 1/8 AND 3/4 INCHES IN IN DIAMETER.</div> <div>10. EXPOSED CONCRETE FINISH SHALL BE AS FOLLOWS, UNLESS NOTED: <div>EXTERIOR SLABS – LIGHT BROOM</div> <div>INTERIOR SLABS – SMOOTH TROWEL</div> <div>OTHER HORIZONTAL – WOOD FLOAT</div> <div>VERTICAL – SMOOTH WITHOUT HONEYCOMBING OR FORM MARKS</div> </div> <div>11. EXPOSED CORNERS SHALL HAVE A 3/4 INCH x 45 DEGREE CHAMFER.</div> <div>12. CONCRETE WORK PERFORMED DURING HOT WEATHER (ABOVE 90 DEGREES F) SHALL CONFORM TO ACI STANDARD 305.</div> <div>13. CONCRETE WORK PERFORMED DURING COLD WEATHER (BELOW 40 DEGREES F) SHALL CONFORM TO ACI STANDARD 306.</div> <div>14. EXPOSED (NON-FORMED) CONCRETE SURFACES SHALL HAVE SEVEN DAY MOIST CURE OR CURING COMPOUND APPLIED CONFORMING TO THE FOLLOWING: <div> <div>A. ASTM C309 AND ASTM C1315</div> <div>B. THIRTY PERCENT MINIMUM SOLIDS BY WEIGHT</div> <div>C. APPLIED AT 200 SQUARE FEET PER GALLON</div> <div>D. MOISTURE LOSS OF 0.50 POUNDS PER SQUARE YARD MAXIMUM IN 72 HOURS</div> <div>E. VOLATILE ORGANIC CONTENT OF 700 GRAMS PER LITER MAXIMUM</div> </div> </div> <div>15. ANCHOR RODS (BOLTS) SHALL BE STEEL CONFORMING TO ASTM F1554, GR. 36, HAVE A WASHER AND NUT EXPOSED AND HAVE A HEAD OR NUT ON EMBEDDED END. OTHER EMBEDDED ITEMS SHALL BE STEEL CONFORMING TO ASTM A36. EMBEDDED ITEM SURFACES SHALL BE GALVANIZED PER ASTM A123. POWER-FAST ADHESIVE ANCHOR SYSTEM BY POWERS FASTENERS, WITH AN EMBEDDED DEPTH OF 9 ANCHOR DIAMETERS, MAY BE SUBSTITUTED FOR ANCHOR RODS 1-1/4 INCHES OR LESS IN DIAMETER.</div> <div>16. SLABS ON GRADE CONTROL JOINTS SHALL HAVE SIKAFLEX 2c SEALANT BY SIKA OR THC 900 OR 901 SEALANT BY TREMCO. EXPANSION JOINTS SHALL BE 1/2 INCH THICK AND CONFORM TO ASTM D1751, D1752, OR D2628. WATERSTOP SHALL BE "SWELLSTOP" BY GREENSTREAK.</div> <div>17. ALL MATERIAL PREPARATION AND PLACEMENT SHALL BE AS RECOMMENDED BY THE MANUFACTURER. MATERIAL SUBSTITUTIONS MUST BE ENGINEER APPROVED.</div> <div>18. COLD JOINT SURFACES SHALL HAVE A 1/4 INCH PROFILE MINIMUM.</div> <div>19. SLAB AND WALL PENETRATIONS SHALL HAVE ONE EXTRA #5 ALONG EACH FACE WITH REBAR EXTENDING THE FULL DISTANCE OF THE SHORTEST SPAN AND 36 INCHES PAST FACE IN THE OTHER DIRECTION, UNLESS NOTED.</div> | BAR SIZE | TOP BARS | OTHER BARS | BAR SIZE | TOP BARS | OTHER BARS | #4 | 32 | 25 | #8 | 80 | 61 | #5 | 40 | 31 | #9 | 90 | 69 | #6 | 48 | 37 | #10 | 101 | 78 | #7 | 70 | 53 | #11 | 112 | 86 | | | | | |
| BAR SIZE | TOP BARS | OTHER BARS | BAR SIZE | TOP BARS | OTHER BARS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| #4 | 32 | 25 | #8 | 80 | 61 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| #5 | 40 | 31 | #9 | 90 | 69 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| #6 | 48 | 37 | #10 | 101 | 78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| #7 | 70 | 53 | #11 | 112 | 86 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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STEEL NOTES

- DESIGN, FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO AISC "STEEL CONSTRUCTION MANUAL," 13TH EDITION AND INTERNATIONAL BUILDING CODE, 2003 EDITION. DRAWING INFORMATION CONFLICTING WITH THESE NOTES SHALL CONTROL.
- CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES AND REGULATIONS BEARING ON THE WORK.
- MATERIAL "APPROVALS" AND "SUBSTITUTION APPROVALS" ARE BY THE ENGINEER. "NOTED" INDICATES "AS SHOWN ON THE DRAWINGS" AND "U.N.O." INDICATES "UNLESS NOTED OTHERWISE." MATERIAL PLACEMENT SHALL BE AS RECOMMENDED BY MANUFACTURER.
- STRUCTURAL STEEL SHALL BE NEW AND CONFORM TO THE FOLLOWING ASTM STANDARDS:
STEEL W & WT SHAPES – A992 (FY=50 KSI)
STEEL PLATES, RODS & OTHER SHAPES – A36
HIGH STRENGTH BOLTS – A325, TYPE 1
NORMAL STRENGTH BOLTS – A307
WASHERS – F436
NUTS – A563
STEEL TUBING (HSS) – A500, GRADE B, FY=46 KSI
- BOLTED CONNECTIONS SHALL BE MADE WITH A MINIMUM OF (2)-3/4" DIAMETER A325 HIGH STRENGTH BOLTS DESIGNED AS BEARING TYPE WITH THREADS EXCLUDED FROM THE SHEAR PLANE. HAVE A NUT AND 2 WASHERS IN 1 1/2" DRILLED OR PUNCHED HOLES (BURNING IS PROHIBITED) AND BE CONNECTED TO A SNUG TIGHT CONDITION, U.N.O. A307 BOLTS MAY BE USED FOR CONNECTING STAIRS, PURLINS AND GRIS. BEAM CONNECTIONS SHALL HAVE THE MAXIMUM NUMBER OF SINGLE ROW BOLTS U.N.O.
- WELDING SHALL BE PERFORMED WITH E-70XX ELECTRODES CONFORMING TO THE REQUIREMENTS OF "AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE"(AWS D1.1), LATEST EDITION. FIELD WELDING IS PERMITTED ONLY WHERE NOTED OR APPROVED. PENETRATION AND FUSION WELDS SHALL BE TESTED USING X-RAY OR ULTRASONIC ANALYSIS BY THE OWNER PER AWS STANDARDS. CONTRACTOR IS RESPONSIBLE FOR REWORK AND RETESTING OF FAILED TESTS.
- BRACING CONNECTIONS SHALL BE DESIGNED FOR THE GREATER OF EITHER THE LOAD NOTED OR 1/2 TENSILE STRENGTH OF THE MEMBER (T=FY A/2), BUT NOT LESS THAN 6 KIPS. DOUBLE ANGLE BRACING SHALL HAVE SPACERS PER AISC SPECIFICATIONS.
- BEAM AND COLUMN WORK POINTS SHALL BE AT INTERSECTING NOMINAL CENTERLINES OF CONNECTING MEMBERS AND HORIZONTAL MEMBER WORK POINTS SHALL BE AT NOMINAL MID-DEPTH OF SHALLOWEST CONNECTING MEMBER U.N.O.
- GUSSET PLATES SHALL BE 3/8" MINIMUM THICKNESS U.N.O.
- BRACING SHALL BE FABRICATED WITH THE FOLLOWING DRAW:

| BRACE LENGTH | DRAW REQUIRED | BRACE LENGTH | DRAW REQUIRED |
|--------------|---------------|--------------|---------------|
| 0'-10' | NONE | 20'-35' | (-)/1/8" |
| 10'-20' | (-)/16" | OVER 35' | (-)/3/16" |
- GRATING SHALL BE WELDED BAR GRATING WITH 1 1/4"x3/16" BEARING BARS SPACED AT 1 3/16" AND CROSS BARS SPACED AT 4." GRATING SUPPORT TO BE PROVIDED ALONG FACE OF COLUMNS USING 1.3x3x1/4. OPENINGS LARGER THAN 4" IN DIAMETER SHALL BE Banded WITH 1/4" PLATE EXTENDING 4" ABOVE GRATING. STAIR TREADS SHALL BE STANDARD GRATING WITH NONSKID NOSING.
- ALL STEEL DETAILING SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED PRIOR TO FABRICATION. MEMBERS SHALL BE MARKED ACCORDING TO ERECTION DRAWINGS WITH STAMPS, WELDS OR STENCILS OF 1" HIGH LETTERS MINIMUM.
- STEEL SURFACES, NOT OTHERWISE COATED OR DESIGNATED NOT TO BE COATED UNCOATED SURFACES DUE TO DEMOLITION OR NEW CONSTRUCTION, AND DAMAGED COATING SHALL BE CLEANED BY COMMERCIAL BLAST PER (SSPC) SP-6 (NEW MATERIAL) OR SP-3 (DAMAGED SURFACES) AND RECEIVE ONE 3 MIL DFT SHOP COAT OF "PRO-CRYL" UNIVERSAL PRIMER BY SHERWIN-WILLIAMS OR APPROVED COMPATIBLE SUBSTITUTE. HANDRAIL SHALL RECEIVE A "SAFETY YELLOW" FINISH COAT.
- SURFACES NOTED TO BE GALVANIZED, EXCEPT DECKING, SHALL BE COATED PER ASTM A123, A143, A153, A384, AND A385 AFTER MEMBER FABRICATION AND REPAIRED PER ASTM A780. APPROVED VENT HOLES SHALL BE PLACED FOR HOT DIPPED GALVANIZING.
- ROOF DECKING AND WALL PANELING SHALL BE GALVANIZED PER ASTM A643 (90G) AND INSTALLED PER THE STEEL DECK INSTITUTE (SDI).
- STRUCTURES ARE DESIGNED AS STABLE UNITS AFTER ALL PARTS ARE PLACED. ERECTION CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND BRACING DURING ERECTION.
- GROUT UNDER BASE PLATES AND EQUIPMENT SHALL BE NON-SHRINK, NON-METALIC AND WITH A 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI CONFORMING TO ASTM C1107, GRADE B, UNLESS NOTED OTHERWISE.

DESIGN CRITERIA:

- ALL DESIGN SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2003 EDITION AND THE UTAH UNIFORM BUILDING STANDARD ACT RULES (R156-56 UTAH ADMINISTRATIVE CODE, AUGUST 17, 2004).
- SEISMIC MAPPED SPECTRAL ACCELERATIONS ARE S₈ = 0.713, S₁ = 0.209 AND SITE CLASS D
- WIND IS 90 MPH BASIC WIND SPEED WITH A 3 SECOND GUST FACTOR.
- SNOW LOAD IS 30 PSF.

STEEL NOTES

1. DESIGN, FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO AISC "STEEL CONSTRUCTION MANUAL," 13TH EDITION AND INTERNATIONAL BUILDING CODE, 2003 EDITION. DRAWING INFORMATION CONFLICTING WITH THESE NOTES SHALL CONTROL.
2. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES AND REGULATIONS BEARING ON THE WORK.
3. MATERIAL "APPROVALS" AND "SUBSTITUTION APPROVALS" ARE BY THE ENGINEER. "NOTED" INDICATES "AS SHOWN ON THE DRAWINGS" AND "U.N.O." INDICATES "UNLESS NOTED OTHERWISE." MATERIAL PLACEMENT SHALL BE AS RECOMMENDED BY MANUFACTURER.
4. STRUCTURAL STEEL SHALL BE NEW AND CONFORM TO THE FOLLOWING ASTM STANDARDS:
STEEL W & WT SHAPES – A992 (FY=50 KSI)
STEEL PLATES, ROOS & OTHER SHAPES – A36
HIGH STRENGTH BOLTS – A325, TYPE 1
NORMAL STRENGTH BOLTS – A307
WASHERS – F436
NUTS – A563
STEEL TUBING (HSS) – A500, GRADE B, Fy=46 KSI
5. BOLTED CONNECTIONS SHALL BE MADE WITH A MINIMUM OF (2)–3/4" DIAMETER A325 HIGH STRENGTH BOLTS DESIGNED AS BEARING TYPE WITH THREADS EXCLUDED FROM THE SHEAR PLANE, HAVE A NUT AND 2 WASHERS IN 13/16" DRILLED OR PUNCHED HOLES (BURNING IS PROHIBITED) AND BE CONNECTED TO A SNUG TIGHT CONDITION. U.N.O. A307 BOLTS MAY BE USED FOR CONNECTING STAIRS, PURLINS AND GIRTS. BEAM CONNECTIONS SHALL HAVE THE MAXIMUM NUMBER OF SINGLE ROW BOLTS U.N.O.
6. WELDING SHALL BE PERFORMED WITH E-70XX ELECTRODES CONFORMING TO THE REQUIREMENTS OF "AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE"(AWS D1.1), LATEST EDITION. FIELD WELDING IS PERMITTED ONLY WHERE NOTED OR APPROVED. PENETRATION AND FUSION WELDS SHALL BE TESTED USING X-RAY OR ULTRASONIC ANALYSIS BY THE OWNER PER AWS STANDARDS. CONTRACTOR IS RESPONSIBLE FOR REWORK AND RETESTING OF FAILED TESTS.
7. BRACING CONNECTIONS SHALL BE DESIGNED FOR THE GREATER OF EITHER THE LOAD NOTED OR 1/2 TENSILE STRENGTH OF THE MEMBER (T=FY A/2), BUT NOT LESS THAN 6 KIPS. DOUBLE ANGLE BRACING SHALL HAVE SPACERS PER AISC SPECIFICATIONS.
8. BEAM AND COLUMN WORK POINTS SHALL BE AT INTERSECTING NOMINAL CENTERLINES OF CONNECTING MEMBERS AND HORIZONTAL MEMBER WORK POINTS SHALL BE AT NOMINAL MID-DEPTH OF SHALLOWEST CONNECTING MEMBER U.N.O.
9. GUSSET PLATES SHALL BE 3/8" MINIMUM THICKNESS U.N.O.
10. BRACING SHALL BE FABRICATED WITH THE FOLLOWING DRAW:

| BRACE LENGTH | DRAW REQUIRED | BRACE LENGTH | DRAW REQUIRED |
|--------------|---------------|--------------|---------------|
| 0'-10' | NONE | 20'-35' | (-)/1/8" |
| 10'-20' | (-)/16" | OVER 35' | (-)/3/16" |
11. GRATING SHALL BE WELDED BAR GRATING WITH 1 1/4"x3/16" BEARING BARS SPACED AT 1 3/16" AND CROSS BARS SPACED AT 4." GRATING SUPPORT TO BE PROVIDED ALONG FACE OF COLUMNS USING L3x3x1/4. OPENINGS LARGER THAN 4" IN DIAMETER SHALL BE Banded WITH 1/4" PLATE EXTENDING 4" ABOVE GRATING. STAIR TREADS SHALL BE STANDARD GRATING WITH NONSKID NOSING.
12. ALL STEEL DETAILING SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED PRIOR TO FABRICATION. MEMBERS SHALL BE MARKED ACCORDING TO ERECTION DRAWINGS WITH STAMPS, WELDS OR STENCILS OF 1" HIGH LETTERS MINIMUM.
13. STEEL SURFACES, NOT OTHERWISE COATED OR DESIGNATED NOT TO BE COATED UNCOATED SURFACES DUE TO DEMOLITION OR NEW CONSTRUCTION, AND DAMAGED COATING SHALL BE CLEANED BY COMMERCIAL BLAST PER (SSPC) SP-6 (NEW MATERIAL) OR SP-3 (DAMAGED SURFACES) AND RECEIVE ONE 3 MIL DFT SHOP COAT OF "PRO-CRYL" UNIVERSAL PRIMER BY SHERWIN-WILLIAMS OR APPROVED COMPATIBLE SUBSTITUTE. HANDRAIL SHALL RECEIVE A "SAFETY YELLOW" FINISH COAT.
14. SURFACES NOTED TO BE GALVANIZED, EXCEPT DECKING, SHALL BE COATED PER ASTM A123, A143, A153, A384, AND A385 AFTER MEMBER FABRICATION AND REPAIRED PER ASTM A780. APPROVED VENT HOLES SHALL BE PLACED FOR HOT DIPPED GALVANIZING.
15. ROOF DECKING AND WALL PANELING SHALL BE GALVANIZED PER ASTM A643 (G90) AND INSTALLED PER THE STEEL DECK INSTITUTE (SDI).
16. STRUCTURES ARE DESIGNED AS STABLE UNITS AFTER ALL PARTS ARE PLACED. ERECTION CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND BRACING DURING ERECTION.
17. GROUT UNDER BASE PLATES AND EQUIPMENT SHALL BE NON-SHRINK, NON-METALIC AND WITH A 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI CONFORMING TO ASTM C1107, GRADE B, UNLESS NOTED OTHERWISE.

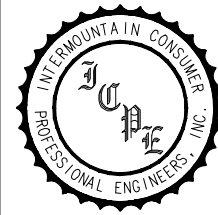
DESIGN CRITERIA:

- A. ALL DESIGN SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2003 EDITION AND THE UTAH UNIFORM BUILDING STANDARD ACT RULES (R156-56 UTAH ADMINISTRATIVE CODE, AUGUST 17, 2004).
- B. SEISMIC MAPPED SPECTRAL ACCELERATIONS ARE S_h = 0.713, S₁ = 0.209 AND SITE CLASS D
- C. WIND IS 90 MPH BASIC WIND SPEED WITH A 3 SECOND GUST FACTOR.
- D. SNOW LOAD IS 30 PSF.

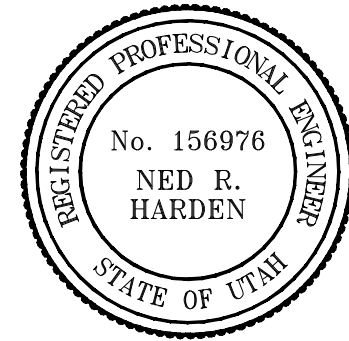


State of Utah-Department of Administrative Services
DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT
410 State Office Building/Salt Lake City, Utah 84143/208-2018

CONSULTANTS



Intermountain Consumer
Professional Engineers, Inc.
CONSULTING ENGINEERS
1140 E. SOUTH UTAH AVE.
MIDVALE, UTAH 84047
PHS. (801) 265-1111 FAX. 566-0086



SNOW
COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

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| CHECKED BY: NH | | |

SHEET TITLE

CENTRAL HEATING PLANT
BOILER #3 MODIFICATIONS
GENERAL NOTES

CONCRETE NOTES

- CONCRETE MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL CONFORM TO ACI 318-05, ACI 301 AND EBC-03 REQUIREMENTS.
- MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - CONCRETE AGGREGATE – ASTM C33 (MAXIMUM SIZE 1 INCH)
 - REINFORCING STEEL (REBAR) – ASTM A615 OR ASTM A706 (WELDING), GRADE 60
 - CEMENT – PORTLAND CEMENT, ASTM C150, TYPE II OR III, TRICALCIUM ALUMINATE – 8% MAXIMUM
 - FLY ASH – ASTM C618, CLASS C OR F, 15% MAXIMUM AS CEMENT REPLACEMENT
 - COMPRESSIVE STRENGTH AT 28 DAYS – 4000 PSI MINIMUM
 - SLUMP – 3 INCHES MAXIMUM
 - WATER TO CEMENT RATIO – 0.4 MAXIMUM
 - AIR ENTRAINMENT – 3.5 – 6.5 PERCENT
 - CONCRETE WEIGHT – NORMAL
 - CHEMICAL ADMIXTURES – ASTM C494
 - CALCIUM CHLORIDE – NONE ALLOWED
- MINIMUM COVER, UNLESS NOTED, SHALL BE PROVIDED FOR REBAR CONFORMING TO ACI 318, CHAPTER 7 AS FOLLOWS:
 - CONCRETE DEPOSITED DIRECTLY AGAINST GROUND – 3"
 - FORMED CONCRETE EXPOSED TO WEATHER OR GROUND – 2"
 - FORMED CONCRETE NOT EXPOSED TO WEATHER OR GROUND, AFTER REMOVAL OF FORMS – 1 1/2" FOR COLUMNS, BEAMS AND GIRDERS AND 3/4" FOR OTHERS
- REBAR SPLICES SHALL CONFORM TO ACI 318, SECTIONS 12.2 AND 12.15, WITH LENGTHS (IN INCHES) AS FOLLOWS:

| BAR SIZE | TOP BARS | OTHER BARS | BAR SIZE | TOP BARS | OTHER BARS |
|----------|----------|------------|----------|----------|------------|
| #4 | 32 | 25 | #8 | 80 | 61 |
| #5 | 40 | 31 | #9 | 90 | 69 |
| #6 | 48 | 37 | #10 | 101 | 78 |
| #7 | 70 | 53 | #11 | 112 | 86 |

TOP BARS ARE HORIZONTAL PLACED ABOVE 12 INCHES OF CAST CONCRETE. DISTANCE BETWEEN REBAR SHALL BE GREATER THAN TWICE REBAR DIAMETER.
- REBAR SHALL BE DETAILED CONFORMING WITH THE ACI DETAILING MANUAL, 1994 EDITION.
- REBAR #4 AND LARGER SHALL BE SHOP FABRICATED, BUNDLED AND TAGGED WITH DRAWING NUMBER AND MARK NUMBER.
- CONSTRUCTION JOINT LOCATIONS NOT SHOWN ON DRAWINGS SHALL BE ENGINEER APPROVED.
- REBAR SHALL BE CONTINUOUS AT STRUCTURE CORNERS AND INTERSECTIONS.
- CONCRETE SLABS NOT PLACED ON EXISTING CONCRETE SHALL BE PLACED ON COMPACTED CRUSHED GRAVEL WITH PARTICLE SIZE BETWEEN 1/8 AND 3/4 INCHES IN IN DIAMETER.
- EXPOSED CONCRETE FINISH SHALL BE AS FOLLOWS, UNLESS NOTED:
 - EXTERIOR SLABS – LIGHT BROOM
 - INTERIOR SLABS – SMOOTH TROWEL
 - OTHER HORIZONTAL – WOOD FLOAT
 - VERTICAL – SMOOTH WITHOUT HONEYCOMBING OR FORM MARKS
- EXPOSED CORNERS SHALL HAVE A 3/4 INCH x 45 DEGREE CHAMFER.
- CONCRETE WORK PERFORMED DURING HOT WEATHER (ABOVE 90 DEGREES F) SHALL CONFORM TO ACI STANDARD 305.
- CONCRETE WORK PERFORMED DURING COLD WEATHER (BELOW 40 DEGREES F) SHALL CONFORM TO ACI STANDARD 306.
- EXPOSED (NON-FORMED) CONCRETE SURFACES SHALL HAVE SEVEN DAY MOIST CURE OR CURING COMPOUND APPLIED CONFORMING TO THE FOLLOWING:
 - ASTM C309 AND ASTM C1315
 - THIRTY PERCENT MINIMUM SOLIDS BY WEIGHT
 - APPLIED AT 200 SQUARE FEET PER GALLON
 - MOISTURE LOSS OF 0.50 POUNDS PER SQUARE YARD MAXIMUM IN 72 HOURS
 - VOLATILE ORGANIC CONTENT OF 700 GRAMS PER LITER MAXIMUM
- ANCHOR RODS (BOLTS) SHALL BE STEEL CONFORMING TO ASTM F1554, GR. 36, HAVE A WASHER AND NUT EXPOSED AND HAVE A HEAD OR NUT ON EMBEDDED END, OTHER EMBEDDED ITEMS SHALL BE STEEL CONFORMING TO ASTM A36. EMBEDDED ITEM SURFACES SHALL BE GALVANIZED PER ASTM A123. POWER-FAST ADHESIVE ANCHOR SYSTEM BY POWERS FASTENERS, WITH AN EMBEDDED DEPTH OF 9 ANCHOR DIAMETERS, MAY BE SUBSTITUTED FOR ANCHOR RODS 1-1/4 INCHES OR LESS IN DIAMETER.
- SLABS ON GRADE CONTROL JOINTS SHALL HAVE SIKAFLEX 2c SEALANT BY SIKA OR THO 900 OR 901 SEALANT BY TREMCO. EXPANSION JOINTS SHALL BE 1/2 INCH THICK AND CONFORM TO ASTM D1751, D1752, OR D2628. WATERSTOP SHALL BE "SWELLSTOP" BY GREENSTREAK.
- ALL MATERIAL PREPARATION AND PLACEMENT SHALL BE AS RECOMMENDED BY THE MANUFACTURER. MATERIAL SUBSTITUTIONS MUST BE ENGINEER APPROVED.
- COLD JOINT SURFACES SHALL HAVE A 1/4 INCH PROFILE MINIMUM.
- SLAB AND WALL PENETRATIONS SHALL HAVE ONE EXTRA #5 ALONG EACH FACE WITH REBAR EXTENDING THE FULL DISTANCE OF THE SHORTEST SPAN AND 36 INCHES PAST FACE IN THE OTHER DIRECTION, UNLESS NOTED.

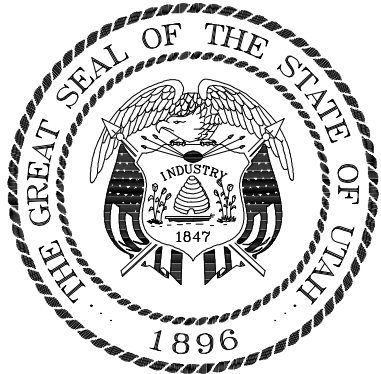
STEEL NOTES

- DESIGN, FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO AISC "STEEL CONSTRUCTION MANUAL," 13TH EDITION AND INTERNATIONAL BUILDING CODE, 2003 EDITION. DRAWING INFORMATION CONFLICTING WITH THESE NOTES SHALL CONTROL.
- CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES AND REGULATIONS BEARING ON THE WORK.
- MATERIAL "APPROVALS" AND "SUBSTITUTION APPROVALS" ARE BY THE ENGINEER. "NOTED" INDICATES "AS SHOWN ON THE DRAWINGS" AND "U.N.O." INDICATES "UNLESS NOTED OTHERWISE." MATERIAL PLACEMENT SHALL BE AS RECOMMENDED BY MANUFACTURER.
- STRUCTURAL STEEL SHALL BE NEW AND CONFORM TO THE FOLLOWING ASTM STANDARDS:
 - STEEL W & WT SHAPES – A992 (FY=50 KSI)
 - STEEL PLATES, RODS & OTHER SHAPES – A36
 - HIGH STRENGTH BOLTS – A325, TYPE 1
 - NORMAL STRENGTH BOLTS – A307
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- ALL STEEL DETAILING SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED PRIOR TO FABRICATION. MEMBERS SHALL BE MARKED ACCORDING TO ERECTION DRAWINGS WITH STAMPS, WELDS OR STENCILS OF 1" HIGH LETTERS MINIMUM.
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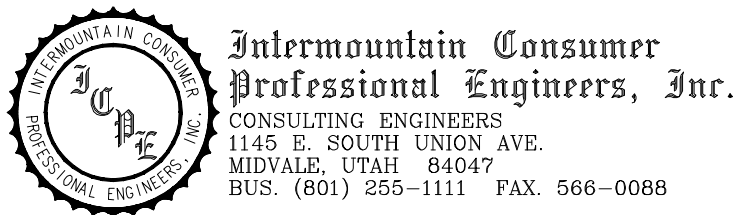
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- SNOW LOAD IS 30 PSF.



State of Utah-Department of Administrative Services
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410 State Office Building/Salt Lake City, Utah 84114/508-3018

CONSULTANTS



SNOW
COLLEGE

EPHRAIM, UTAH

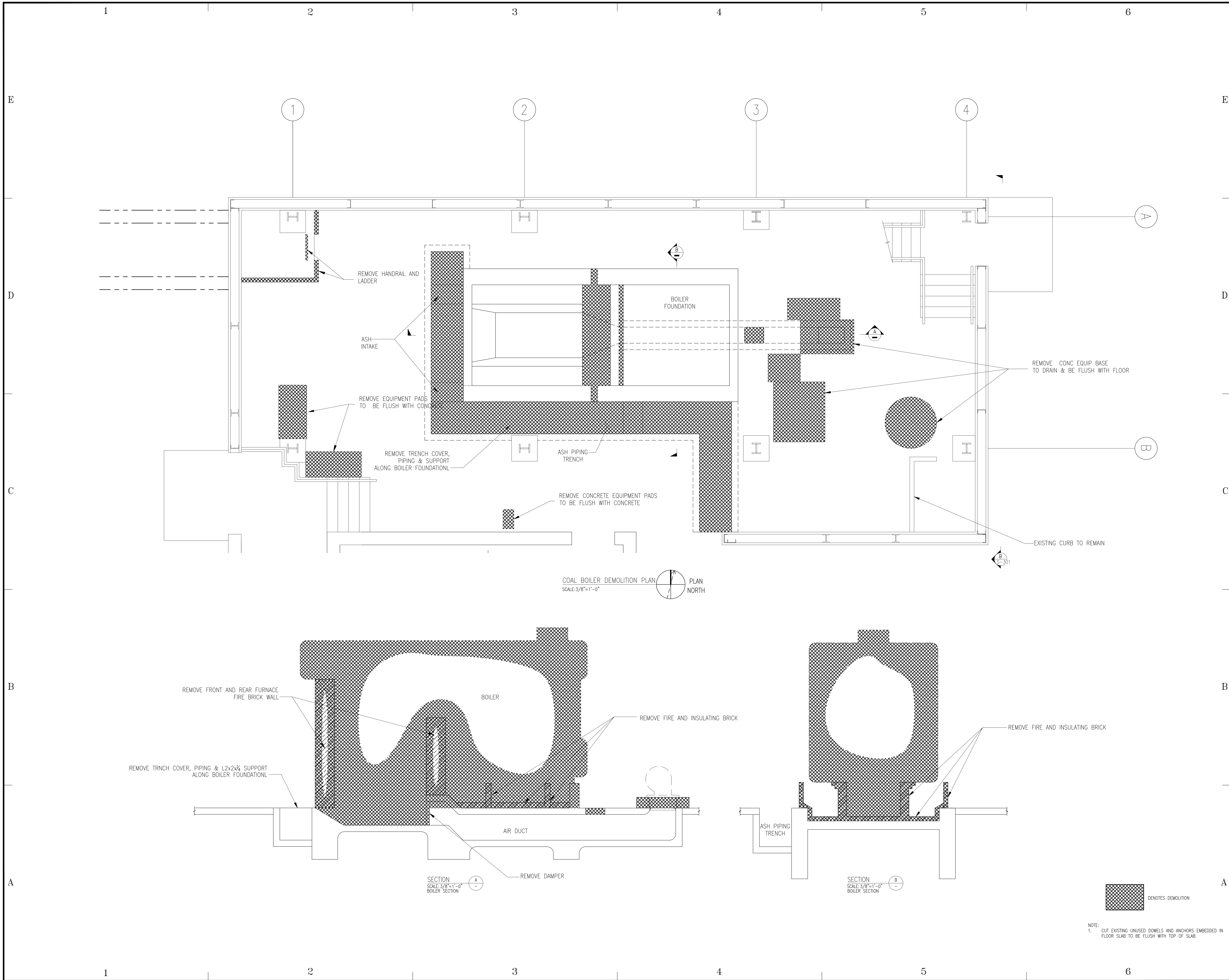
HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

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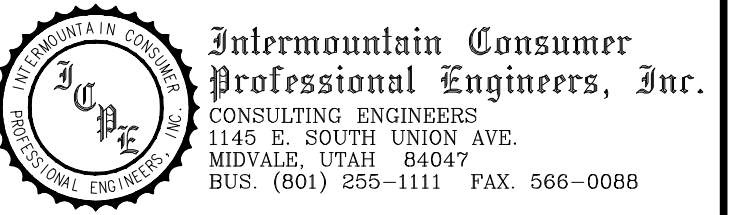
SHEET TITLE

CENTRAL HEATING PLANT
BOILER #3 MODIFICATIONS
GENERAL NOTES



State of Utah-Department of Administrative Services
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410 State Office Building/Salt Lake City, Utah 84143/208-2608

CONSULTANTS



SNOW COLLEGE

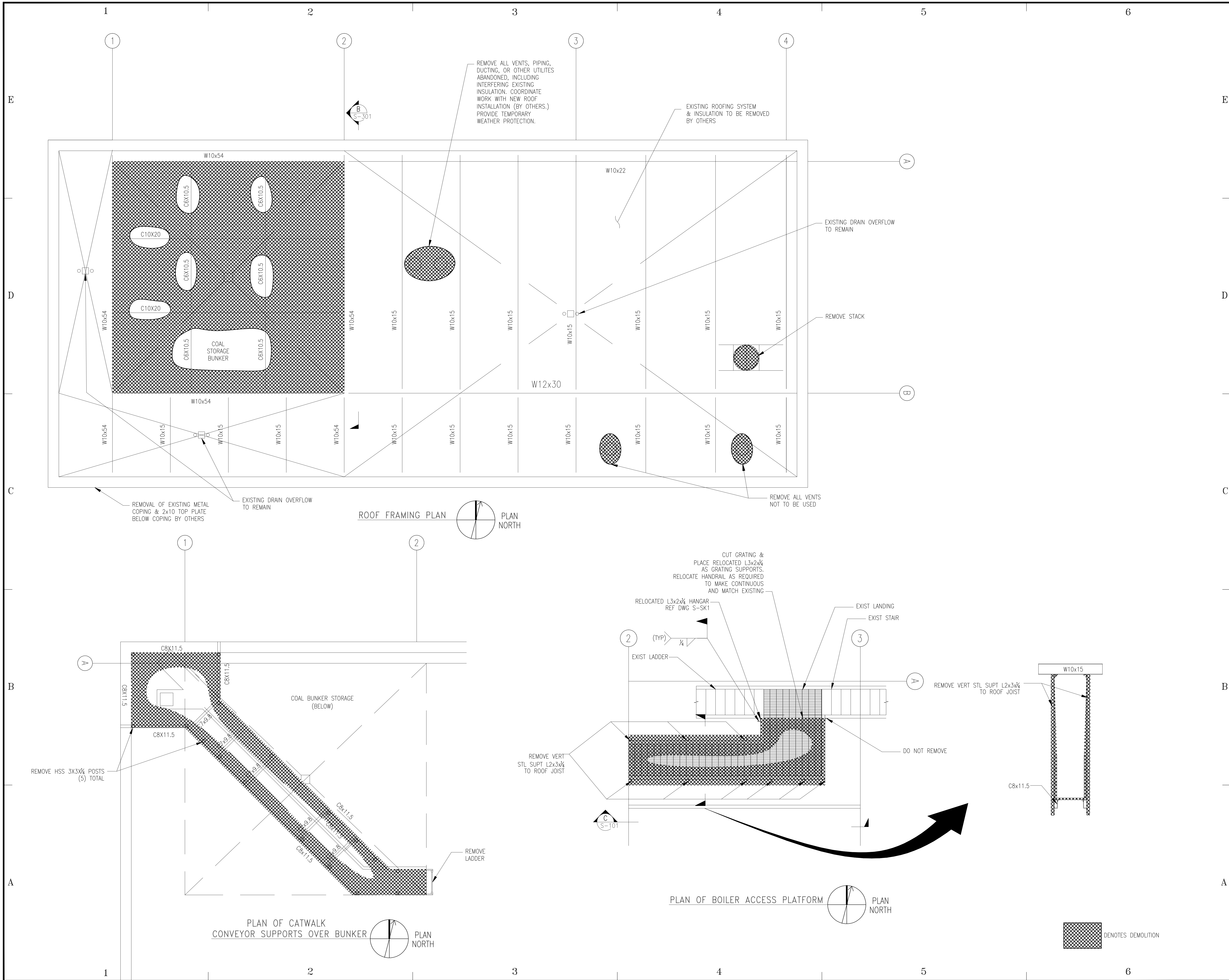
EPHRAIM, UTAH

HEATING PLANT
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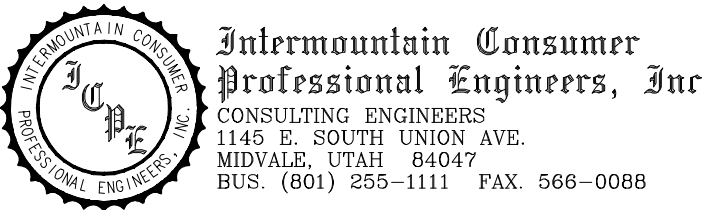
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SHEET TITLE
BOILER #3 REPLACEMENT
CONCRETE AND EQUIPMENT
DEMOLITION PLAN



State of Utah-Department of Administrative Services
DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT
4119 State Office Building, Salt Lake City, Utah 84143/208-2618

CONSULTANTS



SNOW
COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

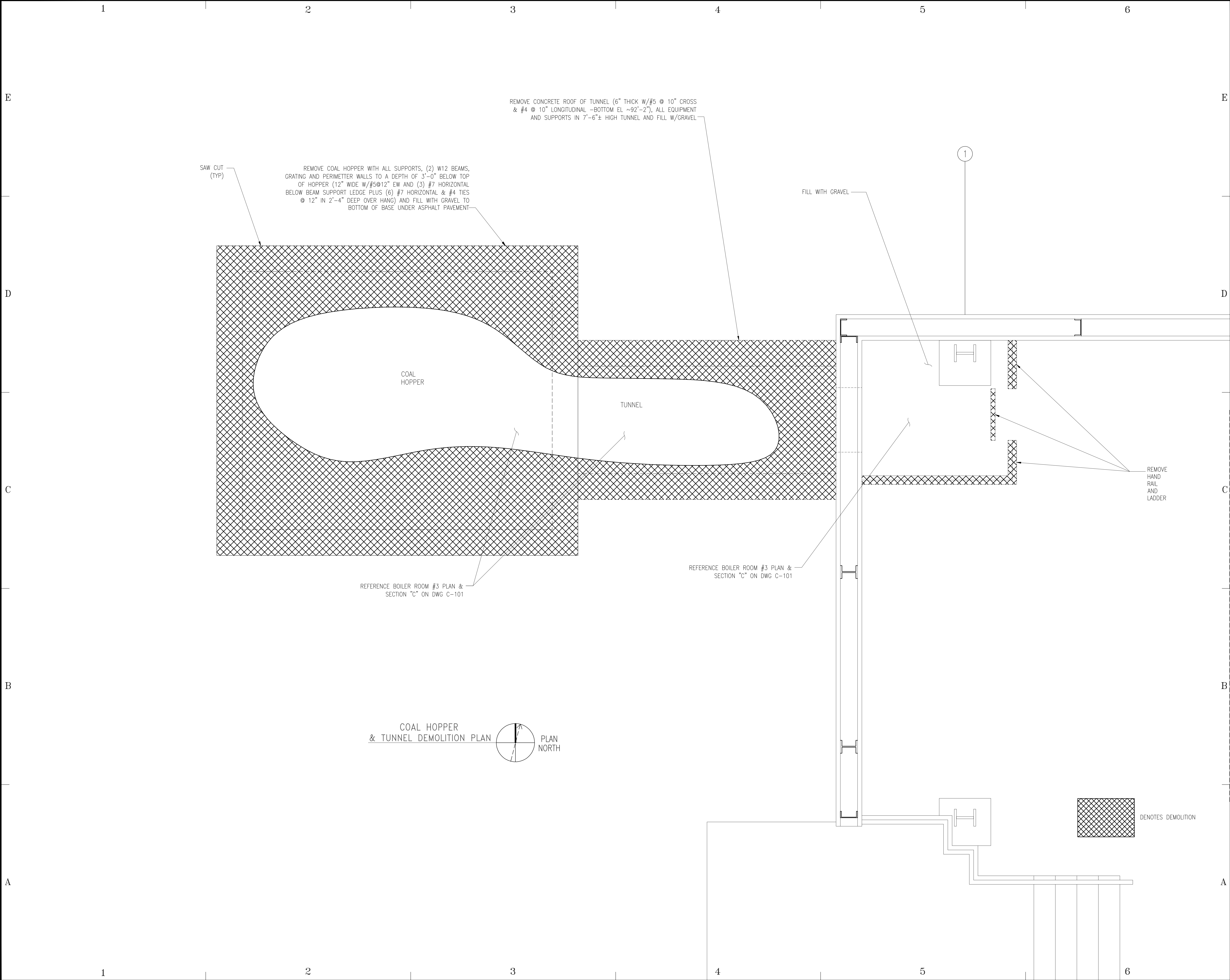
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| 0 | 07-17-07 | ISSUED FOR CONSTRUCTION |
| 1 | 07-17-06 | ISSUE DATE: |
| 2 | 02-152 | PROJECT NO: |
| 3 | S-103 | CAD DWG FILE: |
| 4 | TRP | DRAWN BY: |
| 5 | NRH | CHECKED BY: |

SHEET TITLE

BOILER #3 REPLACEMENT
ROOF & MISC PLATFORM
DEMOLITION PLANS

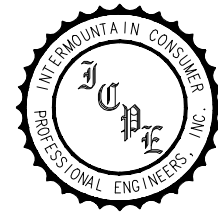
S - 103

SHEET 4 OF 7



State of Utah-Department of Administrative Services
DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT
410 State Office Building/Salt Lake City, Utah 84143/208-2618

CONSULTANTS



**Intermountain Consumer
Professional Engineers, Inc.**
CONSULTING ENGINEERS
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MIDVALE, UTAH 84047
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**SNOW
COLLEGE**

EPHRAIM, UTAH

**HEATING PLANT
BOILER #3
REPLACEMENT**

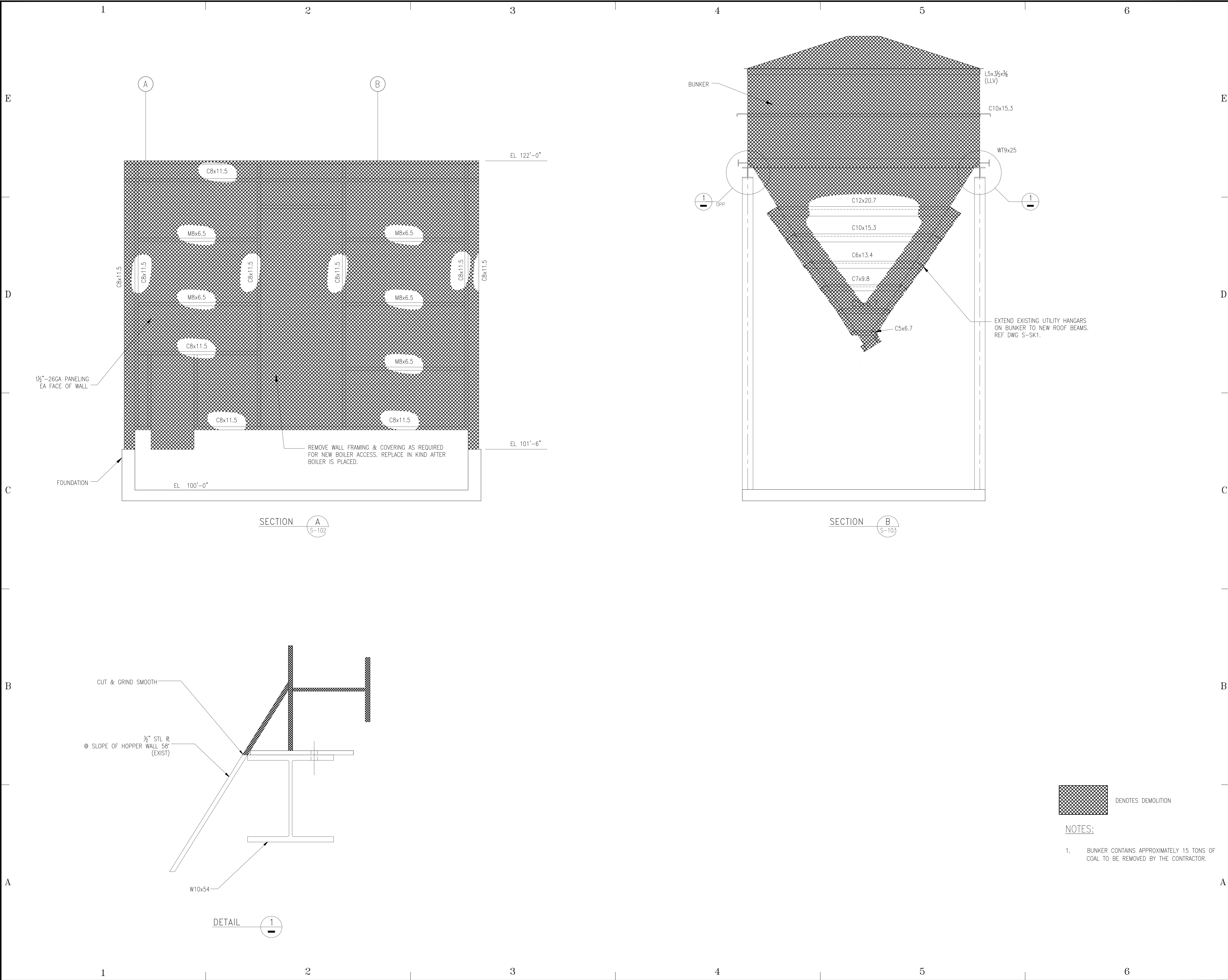
STATE PROPERTY ID. #01794
DFCM PROJECT #06166700


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| 0 | 07-17-06 | ISSUED FOR CONSTRUCTION |
| MARK | DATE | DESCRIPTION |
| ISSUE DATE: | | 07-07-06 |
| PROJECT NO: | | 02-152 |
| CAD DWG FILE: | | S-104 |
| DRAWN BY: | | TRP |
| CHECKED BY: | | NRH |

SHEET TITLE

**BOILER #3 REPLACEMENT
COAL HOPPER & TUNNEL
DEMOLITION PLAN**

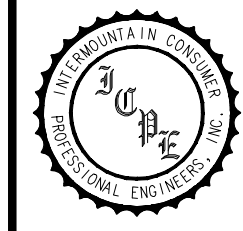
S - 104
SHEET 5 OF 7





State of Utah-Department of Administrative Services
DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT
410 State Office Building/P.O. Box 146, Salt Lake City, Utah 84146-0146

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SNOW COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

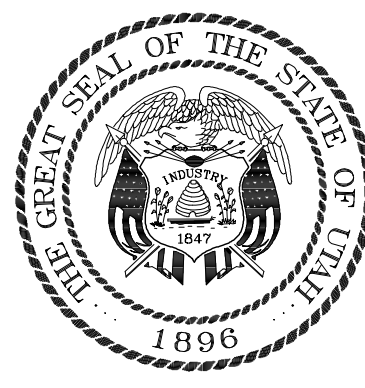
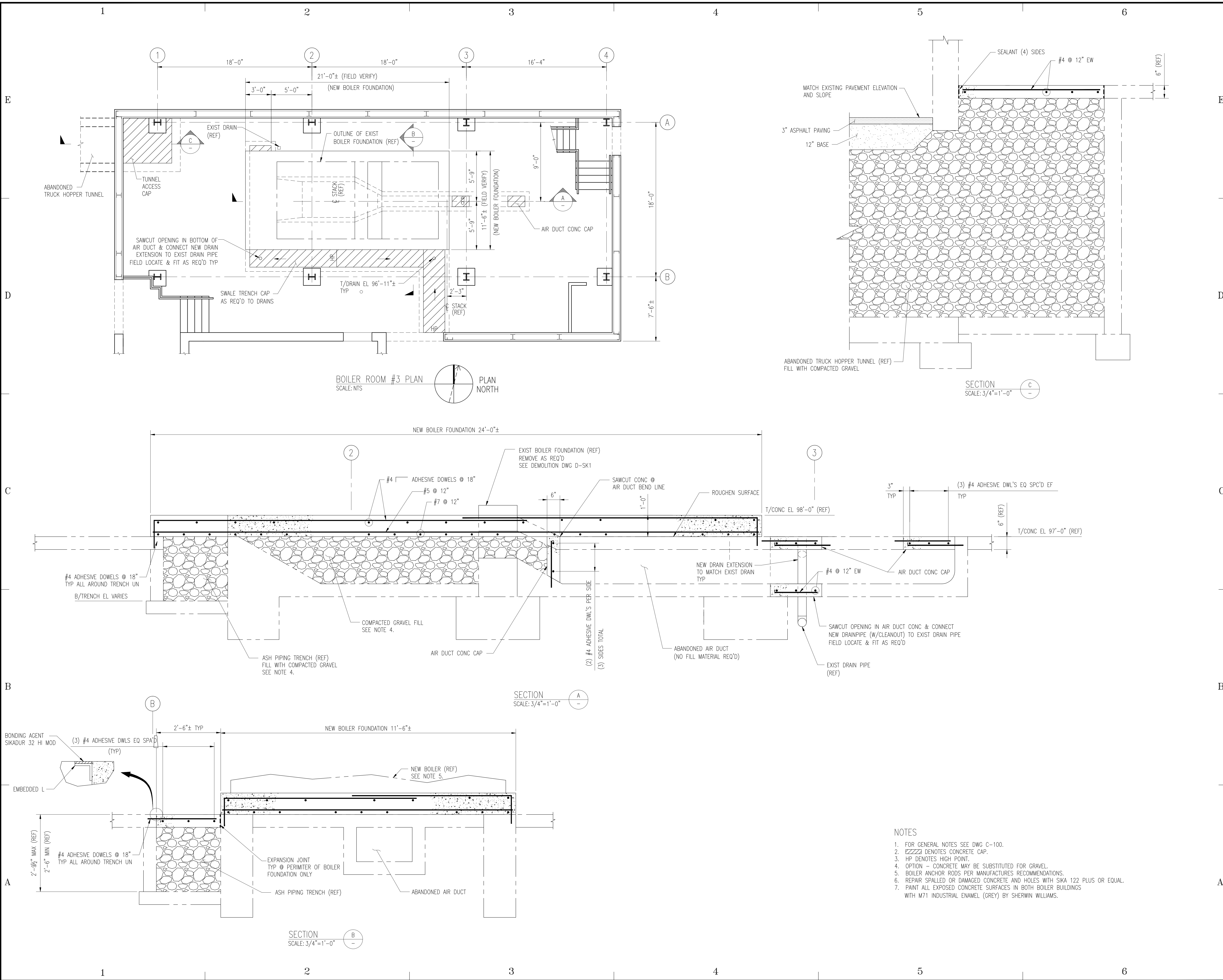
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| 1 | 07-17-06 | PROJECT NO. 02-152 |
| 2 | 07-17-06 | CAD DWG FILE: S-301 |
| 3 | 07-17-06 | DRAWN BY: TRP |
| 4 | 07-17-06 | CHECKED BY: NRH |

SHEET TITLE

BOILER #3 REPLACEMENT
DEMOLITION SECTIONS
& DETAILS

S - 301

SHEET 6 OF 7



State of Utah-Department of Administrative Services
DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT
410 State Office Building/Salt Lake City, Utah 84143/508-3018

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SNOW COLLEGE

EPHRAIM, UTAH

HEATING PLANT
BOILER #3
REPLACEMENT

STATE PROPERTY ID. #01794
DFCM PROJECT #06166700

| 0 | 7-17-06 | ISSUED FOR CONSTRUCTION |
|---------------|---------|-------------------------|
| MARK | DATE | DESCRIPTION |
| ISSUE DATE: | 7/17/06 | |
| PROJECT NO: | 02-152 | |
| CAD DWG FILE: | S-302 | |
| DRAWN BY: | O'LEARY | |
| CHECKED BY: | NRH | |

SHEET TITLE
CENTRAL HEATING PLANT
BOILER #3 MODIFICATIONS
FOUNDATION DETAILS